

Assessing Financial Impact of Development Portfolio

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Section 1: Introduction

1. Introduction

Punjab's long-term development vision aims at creating a literate, fully employed, healthy and culturally aware society. Provincial Annual Development Programs (ADPs) are guided by this overarching vision and the development agenda articulated by the Government, as enunciated in the Strategy for Accelerating Growth and Improving Service Delivery 2009-10, announced in June 2009. The current development program is geared towards achieving the goals for balanced and equitable growth with particular focus on Southern Punjab and other under developed regions. Government aims at poverty reduction and introducing strategic interventions to address the current financial pressure and ensure responsive, transparent and accountable delivery of development objectives. Achieving these development results requires Punjab Government to make investments in economic infrastructure as well as in social sectors. Government of Punjab is also developing a three year rolling development plan – Medium Term Development Framework (MTDF) to streamline development and rationalize priorities.

To realize the development vision, Punjab's economy has to maintain a high growth strategy. However, development potential of the province has been frustrated somewhat in recent years by the fall in the growth rate of the regional economy in the last three years to about four percent per annum on average. This has served to highlight the challenges that the province will need to confront in coming years if it is to get back to the trajectory of fast growth.

Perhaps the principal constraint in the short run are the infrastructural shortages, in particular, the energy shortage. According to a study by IPP¹, the costs of power loadshedding to the province, in terms of losses and higher costs of industrial production, are as large as Rs 250 billion, equivalent to about 3 percent of the provincial GRP. More recently, gas shortages, especially in industry, have emerged as a major factor limiting production. On the agricultural side, the province has the problem of a decline in the availability of water from the irrigation system.

The province is also experiencing a rapid growth in its labor force of one million entrants annually or 3 percent per annum, as compared to the population growth rate of about 2 percent. This is the consequence of the so-called 'demographic dividend' which has implied a younger population and a decline in the dependency ratio. This is a blessing which could become a curse if the young entrants into the labor force are not absorbed quickly into productive work. There are almost 700,000 male youth in the province who are without jobs². This has implications for the war on militancy and the law and order situation. Overall, with an employment elasticity of 0.4 the province will need to sustain a growth rate of over 7 percent if all entrants to the labor force are to be absorbed.

While the province has attained medium level of average per capita income and human development, there are large and growing regional disparities among districts in the North and Central Punjab and those in the South of Punjab. The ratio of access to basic services between developed and undeveloped districts ranges from 1.8 to 5.3 depending upon the service. Public investments in social and physical infrastructure will increasingly have to be diverted to the backward areas of the province. On top of this, a little less than one-third of population of the province lives below the poverty line. In particular, urban poverty is relatively high in Punjab, especially in the smaller towns and cities at the rural-urban interface which have a limited economic base. Therefore,

¹ State of the Economy: Emerging from the Crises, Second Annual Report 2009

² According to Labour Force Survey 2007-08 of FBS

meeting the targets in the Millennium Development Goals (MDGs), including that of poverty reduction by 2015, represents a real challenge for the province. This will require adoption of a strategy of inclusive growth with special emphasis on a strong social protection policy. A number of initiatives have been initiated for targeting benefits directly to the poor following the induction of a democratically elected government in 2008.

To overcome the above constraints, The Medium Term Fiscal Framework (MTFF), 2010-11 to 2012-13, conservatively estimates that infrastructure investments (both federal and provincial) in the province will have to at the minimum double from the current level. Punjab will have to embark on the path of high social and economic infrastructure investment. Now is an opportune time for the province to do so for a number of reasons: first, the 7th NFC award has improved provincial access to national resources; second, the 18th Amendment to the Constitution has allowed provinces' access to capital market within limits; and third, the NFC has recognized the provincial claim to a buoyant source of revenue generation – general sales tax on services – opening up opportunity for the province to mobilize more resources to increase the size of the provincial ADP. Furthermore, the damage to public infrastructure caused by the floods has also to be reconstructed.

In view of the above, development expenditures, which already demonstrated an upward leap after 2005, will have to increase further in the future. This raises the issue of the recurrent impact of all development activities that are undertaken. An increase in the development portfolio, therefore, not only lays a larger claim on the present provincial resources budget but also creates downstream recurrent expenditure liabilities in future. This in turn impacts on the availability of resources for future development activities.

In order to help Government of the Punjab plan their future investments, Planning and Development Department requested Department for International Development (DFID) funded Technical Assistance Management Agency (TAMA) to provide the requisite technical support for this study. The principal objective of this report is to develop a projection Model of Provincial Finances which accounts for the downstream expenditure liabilities resulting from the execution of the development portfolio. This will contribute to more accurate development planning and budget making and ensure sustainability of public spending, thereby making it more efficient, transparent and facilitating strategic interventions in the presence of financial constraints.

Section 2: The budgetary framework

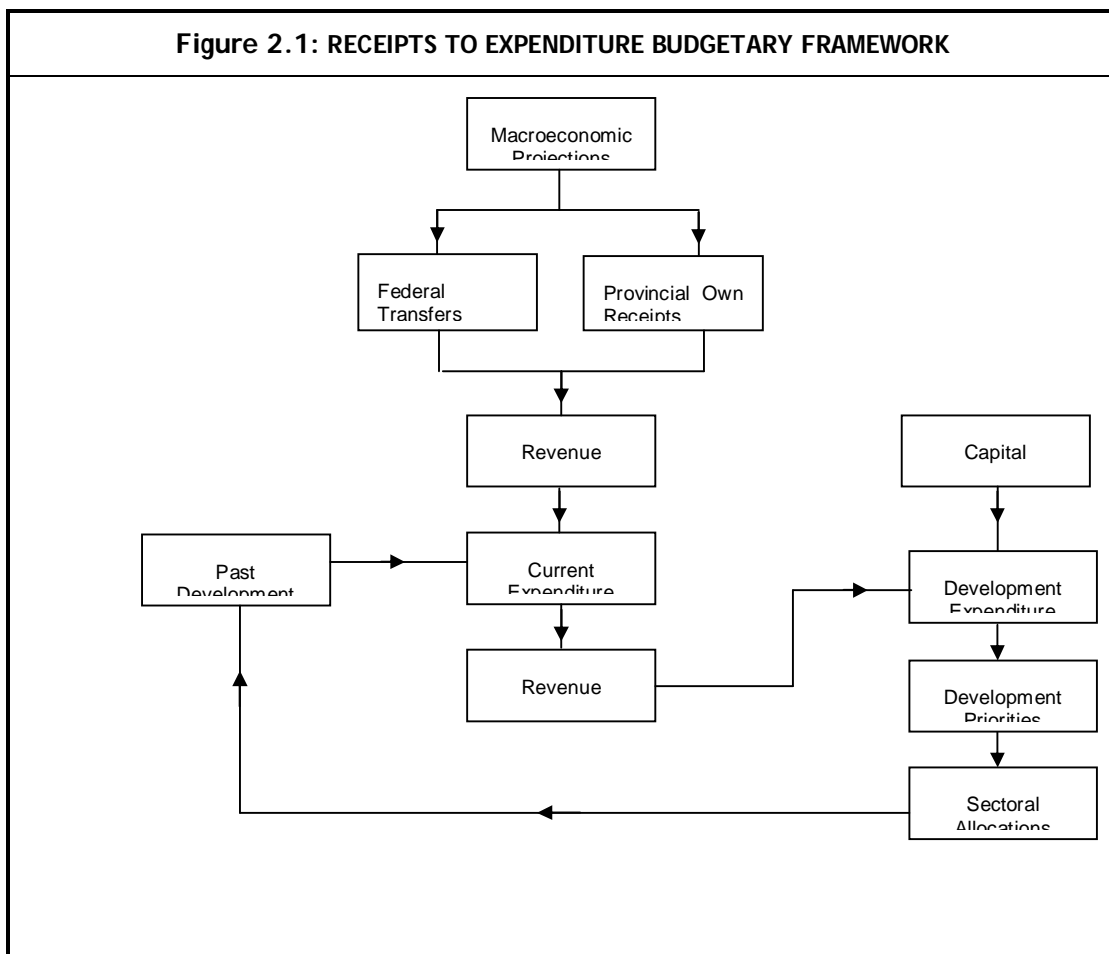
2. The budgetary framework

The budgetary framework indicates the different approaches that can be used to prepare the budget, within the context of which receipts and expenditure can be derived. The key element distinguishing different approaches is which budgetary magnitudes are taken as given and which are determined in the process of budget making.

We describe below the different approaches that can be adopted for preparing the provincial budget.

2.1 Receipts to expenditure

In this framework revenues are essentially taken as given and expenditures are derived, as shown in figure 2.1.



Revenue receipts consist of federal transfers and own receipts. As a first step in the budgeting exercise, the provincial government needs to get a projection from the federal government of the likely level of transfers in the coming financial year. Such projections are based on a Macroeconomic Framework indicating the likely growth in the GDP and in the relevant tax bases alongwith the expected revenue from taxation proposals. Next provincial own-revenues need to be estimated, given the taxation proposals (if any) that are proposed for implementation by the Provincial Government.

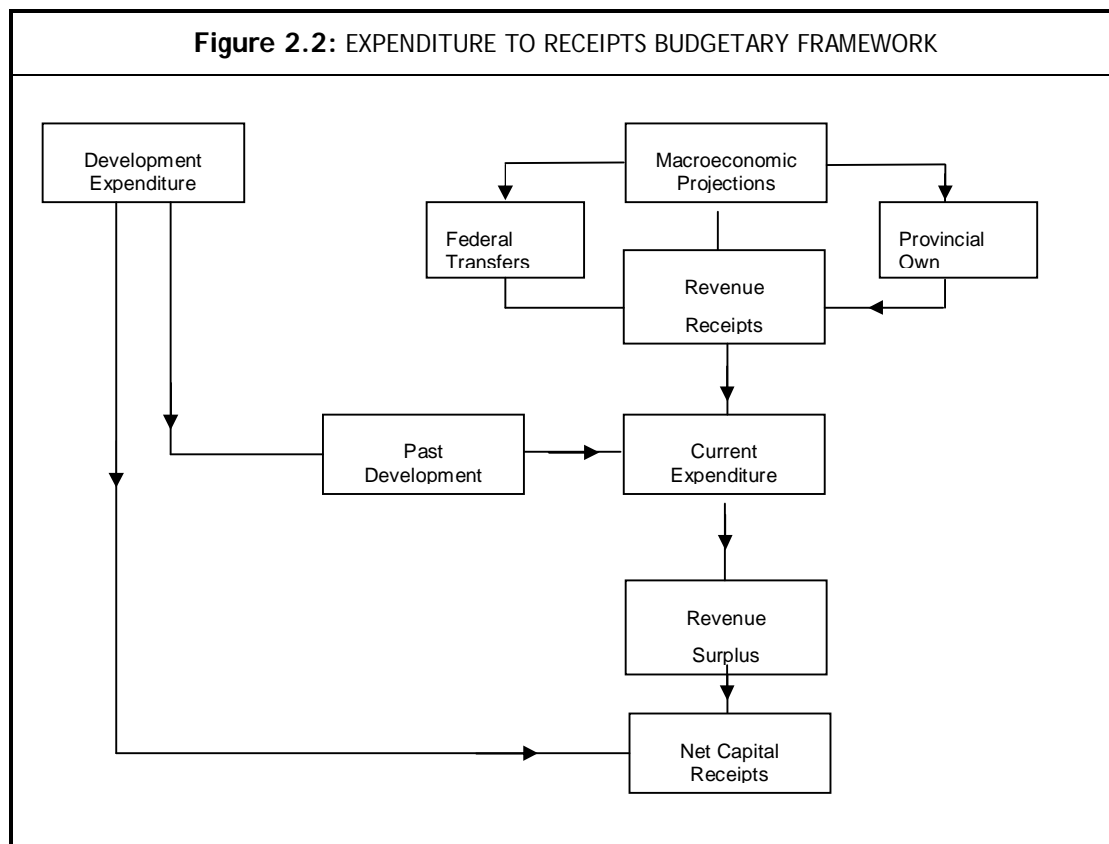
Current expenditure depends, first, on the level of revenue receipts. This defines the fiscal space for salary increases and for expanding employment alongwith provisions for the operations and maintenance of the existing network of services. Second, the development-expenditure link is demonstrated by the downstream recurring liabilities that are created by the O&M costs of recently completed development schemes.

Net capital receipts consist of any development grants by the federal government plus the net inflow of foreign assistance and any borrowing from the banking system or the capital market. These receipts alongwith the revenue surplus determine the size of the development budget. Based on this size, sectoral allocations can be made which are consistent with a medium term development framework.

2.2 Expenditure to receipts

A variant of the budgetary framework is expenditure driven in character as shown in Figure 2.2. As such, the size of the provincial ADP is fixed initially. Current expenditure is projected on the basis of the expected revenue receipts and incorporation of O&M costs, both of existing network of schemes and those arising from recently completed development schemes. Net capital receipts are then determined as a residual. If the level of borrowings implied is too high then the process of budgeting has to be undertaken once again by starting with a somewhat smaller size of the development program. Alternatively, revenue receipts have to be revised upwards by greater mobilization of own revenue sources.

The two approaches to budgeting, viz., receipts to expenditure and expenditure to receipts are used throughout this report especially in Chapter 8 where different budget scenarios are developed. The Model of Provincial Finances that has been developed has the flexibility of incorporating both types of approaches to budgeting described above.



Section 3: Expenditure growth and utilization – analysis of past trends

3. Expenditure growth and utilization - analysis of past trends

3.1 Level and pattern of expenditures

The expenditure from Provincial Consolidated Fund³ can either be current or development. Current expenditure characterizes consumption, while the development expenditure reflects investments for provision of more or improved public goods in the province. In other words current expenditure represents the day to day expenditure of delivering services to people whereas the development expenditure is used to develop new facilities / resources for the public. In this chapter the level and pattern of expenditures of Punjab Government during the last five financial years has been analyzed with special reference to utilization in different sectors.

Table 3.1 shows the level of current and development expenditure of the Government from 2005-06 to 2009-10. During this period the total expenditure of the Government increased from Rs.224,594.7 million to Rs.436,042.3 million. The annual cumulative growth rate (ACGR) of total expenditure in this period was 18.0 percent. The current expenditure grew at an annual rate of 18 percent from Rs.158,270.7 million to Rs.306,621.9 million. A similar growth pattern was witnessed for development expenditure, which increased at a rate of 18.2 percent, from Rs.66,324.0 million in 2005-06 to Rs.129,420.5 million in 2009-10. In fact, the growth of development expenditure for the first 4 years of the period was very rapid at 26.0 percent.

Table 3.1: CURRENT AND DEVELOPMENT EXPENDITURES					
(Rs. in Millions)					
Functions	2005-06	2006-07	2007-08	2008-09	2009-10
Current Expenditure	158,270.7	205,837.7	226,160.8	276,523.7	306,621.9
Development Expenditure	66,324.0	115,162.6	108,279.8	132,533.6	129,420.5
Total Expenditure	224,594.7	321,000.3	334,440.7	409,057.3	436,042.3
Share in Total Expenditure (%)					
Current Expenditure	70.5	64.1	67.6	67.6	70.3
Development Expenditure	29.5	35.9	32.4	32.4	29.7
Total Expenditure	100.0	100.0	100.0	100.0	100.0

The variation in growth rates has changed the shares of current and development expenditures. The table shows that the current expenditure of the Government increased from 64.1 percent to 70.5 percent of the total expenditure whereas a range of 29.5 percent to 35.9 percent was witnessed for the development expenditure during the five year period.

According to the Chart of Accounts under the New Accounting Model adopted by the Punjab Government in 2005-06, the following are the main heads of current expenditure:

- General Public Service
- Public Order and Safety Affairs

³ According to Article 118 of Constitution of Islamic Republic of Pakistan all revenues received by the Provincial Government, all loans raised and all moneys received by in repayment of any loan, shall form part of a consolidated fund to be known as the Provincial Consolidated Fund.

- Economic Affairs
- Environment Protection
- Housing and Community Amenities
- Health
- Recreation, Culture and Religion
- Education Affairs and Services
- Social Protection

3.2 Current expenditure: trends and utilization

Table 3.2 shows the level of current expenditure in different functional categories in the last half a decade.

Table 3.2: TREND IN CURRENT EXPENDITURE BY FUNCTION					
	(Rs. in millions)				
	2005-06	2006-07	2007-08	2008-09	2009-10
General Public Services	108,944.4	134,076.6	144,503.3	150,136.4	181,765.2
Public Order and Safety Affairs	23,145.3	31,261.4	36,312.8	46,425.4	58,768.4
Economic Affairs	14,440.9	16,417.1	17,437.8	34,713.5	23,686.5
Environment Protection	31.7	29.9	30.9	37.6	42.0
Housing and Community Amenities	780.4	826.5	1,222.2	1,574.6	1,534.6
Health	5,912.6	9,011.4	9,623.7	15,299.0	17,945.5
Recreation, Culture and Religion	719.7	1,006.0	2,797.4	1,093.9	998.5
Education Affairs and Services	2,987.6	11,857.6	11,834.5	25,475.9	20,296.7
Social Protection	1,308.1	1,351.2	2,398.2	1,767.4	1,584.5
Total Current Expenditure	158,270.7	205,837.7	226,160.8	276,523.7	306,621.9

The expenditure growth (ACGR) in “General Public Service”, which comprises transfers to local governments, debt servicing etc, was around 13.7 percent in the five year period whereas for some other categories expenditure grew at a much higher rate. For example the expenditure for “Public Order and Safety” exhibited an annual growth of over 26 percent, mainly on account of higher expenditure on law & order / police. Similarly “Health” and “Education Affairs & Services” showed a growth of 32 percent and 61 percent respectively due higher priority assigned by the Government to social sector investment with the cooperation of donor agencies. On the other hand the growth pattern of “Economic Affairs” & “Recreation, Culture and Religion” and “Social Protection” had a much slower growth over the period.

A deeper look at expenditures trends of different functional categories (Table A-2.1 in Annexure 2) leads to the following important observations:

- i. As noted above, overall growth in 'General Public Services' was 13.2 percent but the 'Transfers' (transfers to local government) grew slower at only 12 percent, whereas the expenditure on 'Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)' exhibited a growth of 17.4 percent. Higher growth rate in this head of expenditure is attributable to increased cost of overdraft and pension related expenditures of the Government.
- ii. Expenditure on 'Public Order & Safety Affairs' has been growing at an ACRG of 26.5 percent due to greater emphasis on law & order in the recent times. The specific reasons for this growth rate include better remuneration package for police and judiciary. The expenditure on 'Police' grew almost at the same rate as that of 'Public Order & Safety Affairs'. The fastest growth (i.e. 40.7 percent) in this functional category was witnessed for 'Law Courts' again due to increase in remuneration of judiciary in the last few years.
- iii. The growth in 'Economic Services' which mainly comprises of Agriculture, Irrigation, Food, Mining & transport was slower (only 13.2 percent) than overall growth (18.0 percent) of the current expenditure of the Government.
- iv. In last three years Government has initiated a number of initiatives in the health sectors such as free medicines, provision of air conditioning facility along with generators in public sector hospitals, free dialysis facility and investments for achievement of Millennium Development Goals (MDGs) in Punjab. On account of these initiatives the expenditure on 'Health' showed an annual growth of 32.0 percent.
- v. As already mentioned, social sectors have been a high priority of the Government in this period. Education Sector Reform Program is under implementation with the cooperation of World Bank. Investments are being made in education sector to incentivize primary education in the less developed districts of Punjab. Under this program funds are being provided for provision of missing facilities, stipends to girl students, up-gradation of schools etc. Resultantly the expenditure on 'Education Affairs and Services' has been growing at 61.4 percent.

The utilization patterns of different functional categories of current expenditure (actual expenditure as a percentage of budget allocation) of last five years are presented in Table 3.3 and Table 3.7. Tables showing the budget allocation and actual expenditure of last five years have also been separately provided in Table A-2.2 in Annexure 2.

Table 3.3: UTILIZATION RATE IN GENERAL PUBLIC SERVICE (Actual Expenditure as % of Budget)						
		2005-06	2006-07	2007-08	2008-09	2009-10
General Public Services		100.7	108.8	96.5	107.0	113.8
011	Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)	101.1	104.6	83.2	123.5	142.8
013	Public Debt Transactions					
014	Transfers	100.2	110.2	101.0	101.5	104.1
015	General Services	150.5	154.0	261.2	151.2	129.7

016	Basic Research					
019	General Public Services not Elsewhere Defined	9.1	10.0%	97.4	10.5	96.4

Table 3.4: UTILIZATION RATE IN PUBLIC ORDER AND SAFETY (Actual Expenditure as % of Budget)						
		2005-06	2006-07	2007-08	2008-09	2009-10
Public order and Safety Affairs		111.1	125.1	104.6	125.3	107.8
031	Law Courts	100.9	94.8	96.5	144.8	109.1
032	Police	111.1	130.8	105.4	123.9	109.2
033	Fire Protection	139.3	97.4	90.0	98.3	80.5
034	Prison Administration and Operation	98.8	104.7	106.1	130.1	100.9
036	Administration of Public Order	179.5	97.2	96.5	103.7	87.4

Table 3.3 shows that the utilization in 'General Purpose Services'. In this functional category, the utilization of funds for 'Executive & Legislative Organs, Financial and Fiscal Affairs' was close to 100 percent in the first 2 years and significantly more than budget in 2008-09 & 2009-10, mainly on account of higher interest cost of overdraft and increase in pension compared to budget estimates. Transfers to local governments have been pretty close to the budgeted amount. These transfers are made according to budgeted amounts worked out on the basis of Provincial Finance Commission Award formula. Therefore it is no surprise that their utilization normally remains close to 100 percent. The utilization of 'General Services' has been way over 100 percent but it forms a small fraction of overall allocation for the 'General Public Services'.

The functional category 'Public Order & Safety Affairs' expenditure on courts of law, police, prisons, relief and crisis management including fire protection, anticorruption establishment / economic crimes, and civil defence etc.. Expenditures on establishments such as Public Safety Commissions and the forensic science laboratory, Punjab are also included under this head. Expenditure under 'Public Order & Safety' has consistently been higher than the budget allocation as shown by the Table 3.4 One of the major reasons for this is the higher expenditures for Police, which accounts for almost 80 percent of the total expenditure under 'Public Order & Safety'. The increase in revised estimates for Police in 2006-07 was primarily on account of expenditure for strengthening the policing system by creation of the highway patrolling police and provision of better transport and communication facilities to the police to improve their operational efficiency. Similarly expenditure in 2009-10 was higher due to grant of a special pay package to Police employees by the Government. However, in 2008-09, it appears that the budget allocation for Police was under estimated, due to which the revised estimate turned out to be 23.9 percent higher than the budget allocation. In 2008-09, the expenditure on Law courts was 51 percent higher than budget allocations, again due to grant of a higher salary package to judiciary.

Table 3.5: UTILIZATION RATE IN ECONOMIC AFFAIRS [Actual Expenditure as % of Budget]						
		2005-06	2006-07	2007-08	2008-09	2009-10
	ECONOMIC AFFAIRS	111.3	105.8	75.2	90.1	45.6
041	General Economic, Commercial & Labour Affairs	194.3	99.8	275.9	107.3	163.9
042	Agri. Food, Irrigation, Forestry & Fishing	105.8	96.5	61.0	52.3	33.2
044	Mining and Manufacturing	131.1	144.3	127.2	412.0	126.8
045	Construction and Transport	113.7	112.2	96.5	106.0	90.9
046	Communications					
047	Other Industries	89.4	81.1	81.2	105.1	89.5

Utilization of allocation in economic affairs has been very low in recent years (see Table 3.5). Expenditures on sectors / departments contributing to economic development like Agriculture, Food, Irrigation, Forestry & Fishing, Construction and Transport, Communication and Works, Mining and Manufacturing, and Industries are included under the Economic Affairs of the Provincial Government. Current Revenue Expenditure in these sectors also includes allocations for research, extension and field services to farmers, maintenance and repair of the irrigation network and vocational training of the labour force. The utilization in 'Agriculture, Food, Irrigation, Forestry and Fishing' was low due to lesser expenditure in Food Department than the budget allocations. Since 2007-08, the budget allocations of Food Department have been increased due to introduction of subsidy programs such as Food Support Program and Sasti Roti etc. The allocations were, however, not utilized as the programs were largely carried out from Food Account but the reimbursement to Food Account was not given. Utilization of 'Mining and Manufacturing' has also been showing large variation compared to budget estimates. However, 'Construction and Transport' sub-head showed utilization close to 100 percent which mark some accurate expenditure estimation for this sector.

Health includes Hospital Services, Public Health Services (laboratories and health related population welfare activities), and Health Administration. The health sector is partially devolved where the DHQs, RHCs and THQ hospitals are devolved to the District Governments. Previously, funds for health sector reforms used to be included in the Current Expenditure but now these have been shifted to the Annual Development Programme. Also, under new classifications of the NAM health education is classified under Education Affairs & Services. Hospital Services account for the bulk of the expenditure in Health Sector. This sub-head of the expenditure represents the cost of treatment in autonomous medical institutions of the Government. A look at the Health Sector expenditures suggests that during the last three financial years the sector has received greater resource allocations and the actual expenditure has been even higher (see Table 3.6). The major reason for this has been the spending on initiatives like free medicines, provision of air conditioners and generators in the public sector hospital etc, otherwise utilization of funds in this sector seems to be in line with the budget allocation.

The third largest category is 'Education Affairs and Services'. Education, like Health, is another devolved sector; therefore, provincial budget mainly shows expenditure on secondary and tertiary education. It may also be added that 'Tertiary Education Affairs and Services' is major expenditure category. The utilization of expenditure in this subsector has been significantly lower than budget allocation, a trend which is reflected by lower utilization percentages in Table 3.7.

Table 3.6: UTILIZATION RATE IN HEALTH						
[Actual Expenditure as % of Budget]						
		2005-06	2006-07	2007-08	2008-09	2009-10
	HEALTH	99.0	153.1	133.8	138.8	82.4
071	Medical Products, Appliances & Equipment					
072	Outpatients Services					
073	Hospital Services	97.5	154.9	135.4	138.2	99.5
074	Public Health Services	131.7	98.2	96.8	99.8	104.9
076	Health Administration	118.1	138.0	119.3	155.8	19.6

Table 3.7: UTILIZATION RATE IN EDUCATION AFFAIRS AND SERVICES						
[Actual Expenditure as % of Budget]						
		2005-06	2006-07	2007-08	2008-09	2009-10
	EDUCATION AFFAIRS AND SERVICES	60.0	84.1	49.8	100.8	90.7
091	Pre. Primary Education Affairs & Service	45.8		0.0		
092	Secondary Education Affairs and Services	0.0	47.5	78.1		49.3
093	Tertiary Education Affairs and Services	57.4	70.2	45.5	75.6	89.1
094	Education Services Not definable by level	49.3	38.4	75.0	131.8	147.7
095	Subsidiary Services to Education	123.7	182.5	70.7	97.4	93.4
096	Secretariat/Policy/Curriculum					
097	Education Affairs, Services Not	2787.0	132.2	60.4	198.6	93.3

3.3 Development expenditure: level and utilization

Table 3.8 shows the size of provincial development programs in the last five years and utilization done each year. It shows that the utilization of development funds was

impressive in the first 2 years. It has however been pretty low in last three years. In 2009-10 the utilization was low as development funds were slashed due to non-availability of cash cover to finance the ADP. In 2007-08 and 2008-09, while expenditure cuts were not imposed by the Finance Department, the low utilizations mainly resulted from the inability of the executing agencies to utilize the funds allocated.

Table 3.8: TREND AND UTILIZATION OF DEVELOPMENT EXPENDITURE, 2005-06 TO 2009-10					
(Rs. in Million)					
	2005-06	2006-07	2007-08	2008-09	2009-10
Budget Estimate	56,058.8	117,124.5	150,000.0	160,000.0	175,000.0
Actual Expenditure	66,324.0	115,162.6	108,279.8	132,533.6	129,420.5
% utilization	118.3%	98.3%	72.2%	82.8%	74.0%

Table 3.9 shows the level of actual development expenditure in different functional categories. There has been a consistent growth in almost all sectors which indicates that during the five years the priority of development spending has been pretty consistent. Table A-2.3 in Annexure A-2 provides more details of the development expenditure during past five years.

Table 3.9: DEVELOPMENT EXPENDITURE BY FUNCTIONAL CATEGORIES					
(Rs. in millions)					
	2005-06	2006-07	2007-08	2008-09	2009-10
General Public Service	16,235.6	32,321.8	34,287.0	38,554.4	30,737.0
Public Order & Safety Affairs	6.4	80.6	71.9	1,345.1	2,174.9
Economic Affairs	33,979.8	55,948.1	49,847.0	60,993.3	64,107.7
Environment Protection	1,063.3	135.5	88.0	229.5	76.5
Housing & Community Amenities	9,350.7	14,588.5	15,165.6	19,334.8	21,933.1
Health	2,251.6	3,957.4	4,238.8	2,989.7	5,484.3
Recreation, Culture and Religion	541.2	972.2	148.9	257.5	268.0
Education Affairs & Services	854.6	5,622.9	2,095.0	6,930.2	2,860.6
Social Protection	2,040.7	1,535.5	2,337.5	1,899.2	1,778.4
Sub Total ADP	66,323.9	115,162.5	108,279.7	132,533.7	129,420.5

Utilization of development allocations by functional category is presented in Table 3.10, while budgetary allocations and actual development spending are presented in Annexure Table A-2.5. In case of development expenditure 'General Public Service'

mainly comprises transfer to local governments. In last three years the utilization of 'Transfers' has been, on average, more than double the budget allocation. It points towards the fact that there is some preference of the Government to transfer more funds to local governments than allocated originally. It perhaps is also indicative that under current PFC revenue transfer arrangement, adequate provisions are not made of development transfers.

Economic Affairs is the most important sector of the development budget in terms of the spending levels as shown in Table 3.9. The utilization patterns of 'Economic Affairs' in the past five years, presented in Table 3.10 highlights under utilization in the last three years. This pattern holds for almost all sub-categories – including construction and transport and agriculture, food, irrigation, forestry and fishing.

Table 3.10: UTILIZATION RATE OF DEVELOPMENT EXPENDITURES BY FUNCTION						
(As % of Budget Allocation)						
		2005-06	2006-07	2007-08	2008-09	2009-10
01	GENERAL PUBLIC SERVICE	270.1	106.9	156.2	179.7	142.5
011	Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)	445790.1	1878.6	2.4	1988.6	64.4
014	Transfers **	130.0	107.2	199.5	241.3	179.3
015	General Services	43.5	95.1	37.7	8.7	7.0
04	ECONOMIC AFFAIRS	125.7	92.0	58.8	69.8	67.6
041	General Economic, Commercial & Labor Affairs	147.3	11.0	4.7	17.0	33.8
042	Agri. Food, Irrigation, Forestry & Fishing	115.3	92.4	21.6	57.1	50.1
043	Fuel and Energy		8.1	0.2	0.7	6.4
044	Mining and Manufacturing			21.6	23.7	161.2
045	Construction & Transport	127.6	90.6	66.7	75.3	69.4
047	Other Industries	373.3	2783.7	3091.2	4.7	19.6
	HOUSING & COMMUNITY AMENITIES	123.7	157.7	79.4	91.6	94.5
061	Low Cost Housing	113.3	39.3	0.7		
062	Community Development	169.7	283.8	103.0	90.0	94.2
063	Water Supply	94.9	78.3	80.9	94.4	95.1
07	HEALTH	81.3	95.1	112.1	55.9	79.3
073	Hospital Services	65.3	106.4	69.0	55.6	77.8
074	Public Health Services	107.3	80.0			
076	Administration Health		5.3			
09	EDUCATION AFFAIRS & SERVICES	11.3	60.2	12.3	32.0	14.8

091	Pre-Primary & Primary Education Affairs & Services		19.4			51.0
092	Secondary Education Affairs & Services	2.8	64.0			
093	Tertiary Education Affairs & Services		1028.0	20.7	31.4	78.6
094	Education Services not Definable by Level		7.2	28.5	9.1	102.1
097	Education Affairs & Services not elsewhere classified		0.5	0.3	0.0	0.0

Utilization trend of 'Housing & Community Amenities' has varied significantly overtime. The first two years demonstrate higher utilization rates while a shortfall is clear in the later three years. Utilization in the health sector has been generally low, declining to about 56 percent in 2008-09. Allocation in the education affairs and services sector has been abysmally low, ranging from a maximum of 60 percent in 2006-07 to only 11 percent in 2005-06. This clearly appears to be an area of concern in the development profile of the province.

Section 4: The resource outlook

4. The resource outlook

According to the Annual Budget Statement, provincial receipts include: (i) general revenue receipts; (ii) development revenue receipts; (iii) current capital receipts; and (iv) development capital receipts. General Revenue Receipts comprise three income flows. First, revenues received from the federal government as federal transfers. These include divisible pool transfers, straight transfers and federal grants. Second, provincial own receipts include tax as well as non-tax inflows. Included in this category are also receipts from RGST on services collected by the federal government and reverted to the province. Third, extraordinary receipts, which principally comprise receipts from privatization and sale of land are also included in general revenue receipts. Strictly speaking, these cannot be considered a regular income source.

Development revenue receipts are primarily grants from the federal government and multilateral agencies for specific development projects while current capital receipts mainly accrue from new loans borrowed or raised by the provincial government and recoveries of loans granted to provincial establishments or their employees. Finally, Development Capital Receipts mainly comprise loans borrowed from multilateral donors agencies through the Federal Government for specific foreign assisted development projects.

Projection of the provincial resource envelope requires projection of each category of inflows into the provincial exchequer, which is the objective of this chapter. However, to be able to project these, we first need to project the macroeconomic framework as the level of tax revenues and transfers thereof are determined by both the real growth rate of the economy and the rate of inflation.

4.1 Projection of macroeconomic framework

The year 2009-10 witnessed a modest recovery of the national economy. The GDP growth rate had plummeted earlier to about 1 percent in 2008-09 due primarily to a slump in large-scale manufacturing. There was a rise in the growth rate of the national economy to over 4 percent in 2009-10. But the economy continued to confront the problems arising from the war on terror which impacted severely on levels of private investment. In addition, the continued high levels of power loadshedding implied losses of output and higher cost especially for industry. Of particular concern was the large unanticipated jump in the fiscal deficit for 2009-10, which was projected at 4.9 percent of the GDP but ended the year at 6.3 percent of the GDP. There was a major shortfall in FBR revenues of almost 5 percent. The country has recently experienced a major catastrophe in the form of floods. The consequence of the floods is that all the macroeconomic targets will have to be revised significantly for 2010-11. Overall, post-floods the GDP of Pakistan is likely to show a modest growth rate of only 2 percent in 2010-11. This is consistent with SBP projections of 2-3 percent and somewhat lower than the initial government estimate of 2.5 percent.

Beyond 2010-11, the issue is how rapidly the economy will get back to the path of recovery. The process of reconstruction of the damaged infrastructure could take up to three years. Expenditures on rebuilding the housing stock and infrastructure will provide a stimulus to construction activity. Also, the floods could leave behind rich alluvial soil and ground water resources are likely to have been replenished. Therefore, agricultural productivity could be higher from 2011-12 onwards.

As such, the national economy is expected to demonstrate a higher growth rate in 2011-12. The extent of improvement will hinge, of course, on the extent to which power loadshedding is reduced and on the degree of buoyancy in private investment if and

when security conditions improve. Also, the rate of expansion in the economy will depend upon the stance of monetary and fiscal policies.

Based on the above, the GDP growth rate is projected at 4 percent in 2011-12 rising to 5 percent in 2012-13, 5.25 percent in 2013-14 and 5.5 percent in 2014-15. Given the relationship between the growth of the national economy and the Punjab economy, described in Annexure A-1, the sectoral and overall GRP growth rates are projected up to 2014-15 for the province. It is expected that the economy of Punjab will grow by 2.7 percent in 2010-11, 4.7 percent in 2011-12, 5.6 percent in 2012-13, 6.0 percent in 2013-14 and 6.3 percent in 2014-15. This implies that the regional economy could get back to the trajectory of high growth by 2013-14, especially if in the intervening period the major infrastructure gaps are removed. Quantification of the size of the economy of Punjab is done in Table 4.1.

Table 4.1: SIZE OF THE ECONOMY OF PUNJAB						
(Rs in Billion)						
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
at constant prices of 1999-2000						
GRP	3491.7	3586.1	3754.0	3966.1	4204.1	4468.9
Agriculture	677.3	645.5	661.0	692.7	722.5	749.9
Industry	1991.8	2383.1	2742.7	3122.1	3318.8	3537.8
Services	1944.6	2032.1	2137.7	2261.7	2406.4	2574.9
at current Prices						
GRP	8527.7	10026.2	11491.4	12937.2	14536.2	16379.1
Agriculture	1676.3	1829.3	2051.1	2310.8	2554.8	2811.0
Industry	1991.8	2383.1	2742.7	3122.1	3517.9	3975.1
Services	4859.6	5813.8	6697.4	7504.3	8463.6	9599.4
Inflation Rate		14.5	9.5	7.5	6.0	6.0

4.2 Projection of federal transfers

Inter-governmental transfers are the principal source of revenue for provincial governments in Pakistan, accounting for over 80 percent of provincial receipts. This dependence is a consequence of the imbalance in the allocation of functional responsibilities and fiscal powers between the federal and provincial governments in Pakistan, which has given rise to large vertical imbalances. Such imbalances exist in

other federations also. However, it is on the higher side in Pakistan due to the skewed allocation of fiscal powers, whereby the federal government collects as much as 95 percent of revenues and the provinces, only 5 percent.

This lopsided allocation, in particular, of revenue has necessitated establishment of elaborate revenue sharing arrangements in Pakistan. These transfers take place according to the provisions of NFC Award, which according to constitutional provisions should be announced once every five years. The latest NFC award was announced in December 2009 which became operative from July 2010. The award has significantly altered revenue sharing arrangements in Pakistan as highlighted in Box 4.1.

Box 4.1: DIFFERENCE BETWEEN PREVIOUS AND NEW REVENUE SHARING ARRANGEMENTS

	Presidential Order 1	The 7 th NFC Award
	2006	2009
A. DIVISIBLE POOL [DP]		
1. Composition:		
Taxes on Income	✓	✓
Wealth Tax	✓	✓
Capital Value Tax	✓	-
Taxes on Sales and Purchases	✓	✓
Sales Tax on Services (CE Mode)	✓	Devolved to Provinces
Export Duties on Cotton	✓	✓
Customs Duties	✓	✓
Federal Excise Duty Excluding on Gas	✓	✓
2. Collection Charges:	5%	1%
B. VERTICAL DISTRIBUTION		
1. Provincial Share in DP	46.25%	56% increasing to 57.5%
2. Grants and Subventions	3.75%	-
Distribution: Punjab	11%	-
Sindh	21%	Rs. 6 billion
Khyber-Pukhtunkhwa	35%	-
Balochistan	33%	-

C. HORIZONTAL DISTRIBUTION**1. Indicators and Weights**

Distribution Formula of DP among Provinces	Population [100%]	Population [82%] Poverty [10.3%] Revenue [5%] IPD [2.7%]
[Excluding 1/6 th of Sales tax]		

2. Provincial Shares in DP

Punjab	53.01%*	51.74%
Sindh	24.94%*	24.55%
Khyber-Pukhtunkhwa	14.88%*	14.62%
Balochistan	7.17%*	9.01%

*including Grants/Subventions

The award has achieved the following: enhanced the size of the divisible pool; recognized that sales tax on services is a provincial subject and accepted the demand of the provinces to devolve services taxed under the ambit of federal excise duties to the provinces; increased the provincial share in the divisible pool from 46.25 percent to 56 percent in the first year of NFC and 57.5 percent in the subsequent years; replaced the system of subventions with fiscal equalization among provinces through a non-discretionary and transparent revenue sharing formula; accepted multiple criteria (of poverty, inverse population density (IPD) and revenue contribution (both collection and generation) alongwith population) as a bases for distribution of the provincial share of divisible pool among provinces; taken into account special considerations which impact on the fiscal requirements of the provinces like the war on terror and the special development needs of Balochistan; amended the bases of straight transfers and resolve the longstanding dispute with Khyber-Pakhtunkhwa on arrears of hydel electricity profits and with Balochistan on arrears of GDS. Punjab will also receive arrears on account of profit from hydel electricity of Rs. about 30 billion. All in all, the 7th NFC Award is unique in its design and its sensitivity to the needs of the federating units and is, therefore, an achievement of the current government. In accordance with the provision of the 7th NFC Award, progress has also been made to operationalize the devolution of GST on services to the provincial governments.

Besides the revenue sharing formula, federal transfers from the divisible pool to the Government of Punjab are essentially determined by the level of tax revenues mobilized by FBR. This is the case as, unlike the other provinces where straight transfers constitute an important proportion of federal transfers, Punjab's dependence is mostly on 'Divisible-pool' transfers. As such, the evolution of tax-to-GDP ratio is an important factor in determining the resource availability to the provincial government.

Pakistan has been in the low tax-to-GDP trap over the last decade. The ratio of FBR administered taxes-to-GDP has remained at about 9 percent which is low when compared internationally with countries at a similar level of development. Factors

responsible for keeping Pakistan in this low tax-to-GDP trap include a narrow tax base, widespread exemptions and concessions, tax evasion, slackening tax administration and resort to supply-side economics of simulating growth by tax cuts.

In order to enhance revenues, the Federal Government plans to introduce measures aimed at broadening the tax base and strengthening tax administration. These measures are presented in Box 4.2. Based on these it is estimated that the Federal tax collection will increase to Rs 2485 billion or 11.1 percent of the GDP by 2012-13.

Given the recent track record of FBR, the above magnitude of enhancement appears to be on the optimistic side. The federal (FBR) tax-to-GDP ratio is expected to remain stagnant this year and thereafter show some buoyancy to increase to 10 percent of the GDP by 2014-15. These projections though lower than those indicated by the Federal Ministry of Finance are considered more realistic for projecting transfers to the Government of Punjab.

Divisible pool transfers to the province of Punjab are projected at Rs. 410 billion in 2010-11, increasing to Rs. 742 billion by 2014-15 (see Table 4.2). These transfers are projected to increase at an annual rate of 15.9 percent. Compared to the budgeted transfers in 2010-11, there is likely to be shortfall of about Rs. 26 billion, due to the likely consequence of slowing down of the economy after the floods which have already affected FBR tax collection and delays in implementation of tax reforms, especially the RGST.

Box 4.2: FEDERAL RESOURCE MOBILIZATION STRATEGY

According to the Federal Budget Strategy Paper 2 (2010)⁴, federal resource mobilization measures include:

1. Introduction of a broad based Value-Added Tax (VAT) replacing the General Sales Tax (GST) system of tax collection with the RGST. The VAT system has a better growth potential in relation to GST because it generates extra revenue through systematic documentation of the economy.
2. Phasing out of exemptions (to broaden the tax base and ensure horizontal equity in the tax system)
3. Broadening tax base to include services sectors.
4. Completing tax administration reforms. This will improve efficiency, integrity, transparency and prevent revenue leakages. The measures are estimated to increase Tax revenue by 0.1 percent of GDP (at market prices) for 2010/11 and 0.2 percent of GDP (at market prices) in the outer two years. These reform programmes will include the following specific measures:
 - a. Strengthening of enforcement and audit functions,
 - b. Automation of tax collection, monitoring and reporting systems.
 - c. Re-engineering of existing processes, and
 - d. Simplification of rules and procedures, and
 - e. Capacity Building.

The Federal Cabinet on the 10th of November 2010 approved the RGST bill for presentation to the National Assembly. In addition, a flood surcharge at 10 percent on income tax revenues is to be imposed from January 1, 2011, for a period of six months. Also, special excise duty is being raised from 1 percent to 2 percent. The total additional revenue expectation from these measures is about Rs. 40 billion in 2010-11.

Besides, the federal government also transfers net proceeds of the federal excise duty on natural gas and net proceeds of royalty on crude oil and natural gas assigned to the

⁴ Federal Budget Strategy Paper-2 (2010-11), Ministry of Finance, Government of Pakistan.

provinces under the Constitution as straight transfers. Inclusive of federal grants, total federal transfers are projected to increase from Rs. 419 billion in 2010-11 to Rs. 753 billion by 2014-15, as shown in Table 4.2.

Table 4.2: THE RESOURCE ENVELOPE, 2010-11 TO 2014-15							
(Rs. in Billion)							
	Description	200910	2010-11	2011-12	2012-13	2013-14	2014-15
	FBR Revenues	1320.0*	1550.0	1794.8	2070.0	2383.0	2747.4
1	Federal Resource Transfers	345.4*	419.1	494.9	567.4	652.0	753.0
	Divisible Pool Transfer	329.8	410.1	485.1	557.3	642.0	741.7
	Straight Transfers	7.0	6.1	6.9	7.1	7.6	8.1
	Subventions	4.8	-	-	-	-	-
	Federal Grants	3.8	2.8	2.9	3.0	3.1	3.2
2	Provincial Resources	65.0*	104.3	122.9	142.9	159.5	178.6
	Provincial Tax Revenues	32.6*	82.5	198.1	115.6	129.0	144.4
	GST on Services		42.1	53.6	66.6	75.0	85.0
	Other Provincial Taxes		40.4	44.5	49.0	54.0	59.4
	Non-Tax Revenues	32.4	21.8	24.8	27.3	30.5	34.2
3	TOTAL REVENUE RECEIPTS (1+2)	410.4*	523.4	617.8	710.3	811.5	931.6
4	Financing Available for Development	27.9	19.5	22.8	30.4	35.1	40.4
5	TOTAL RESOURCES (3+4)	437.7	542.9	640.8	741.7	846.6	971.0
*Provisional Actuals for 2009-10. Revised estimates are close to Rs. 423 billion.							

4.3 Provincial own receipts

Currently the four provinces combined are generating less than half a percent of GDP as own revenues. This ratio has, in fact, fallen over the years. Given that the country needs to make an all out effort to get out of the low tax-to-GDP trap, sub-national governments will also have to play their due role by enhancing the level of fiscal effort in their respective jurisdictions.

Provincial own receipts consist of the following:

- i. Tax receipts: Receipts from direct taxes (agriculture income tax (AIT), property tax (UIPT), land revenue, professional tax, capital value tax etc.) and indirect taxes (sales tax on services, provincial excise, stamp duties, motor vehicle taxes, electricity duty etc.)
- ii. Non-tax receipts: income from property and enterprises; receipts from civil administration and other functions; miscellaneous receipts (other receipts excluding federal grants and development surcharges and royalties) and extraordinary receipts

Analysis of provincial tax mobilization over the decade reveals a varying level of fiscal effort. Provincial tax effort clearly slackened during the period 2003-04 to 2007-08, when there was a fast growth in GDP. The growth rate of provincial taxes declined to 12 percent per annum from over 15 percent in the previous two years. Thereafter, great vibrancy is observed in provincial tax mobilization. Growth in provincial taxes over the last two years has averaged close to 30 percent. The high growth is partially because capital value tax, hitherto collected by the federal government and shown as part of federal transfers, has been devolved to the province and is therefore a part of provincial tax receipts. Currently, buoyancy of provincial tax revenues is estimated at 0.80 with respect to the GRP. That is, if the provincial economy grows by 10 percent, provincial tax revenues grow by 8 percent. This coefficient has to be raised to say 1.2 to lead to some increase in the provincial tax-to-GRP ratio. This would essentially imply continuation of the recent growth momentum over the next five years.

The primary growth area for provincial taxes is sales tax on services. The federal government collects GST on services on behalf of the provincial governments and reverts back revenues collected net of cost of collection. Following the 7th NFC award, federal government will also revert back revenues previously collected as federal excise duty (CE mode) on services to the provinces. This alongwith an expansion of the GST tax net to include more services will lead to a substantial increase in revenues from this source to the Government of Punjab. In the absence of full agreement yet on the distribution of RGST revenues among provinces and the federal government, the allocation for 2010-11 by the federal government is budgeted on the basis of population. We assume continuation of this allocation basis. Revenues accruing to the Government of Punjab on account of RGST on services are projected at Rs 42 billion in 2010-11, increasing to Rs. 85 billion by 2014-15⁵.

Beside RGST, given the current allocation of fiscal powers provinces have two other promising direct revenue sources under their fiscal jurisdiction, the Urban Immovable Property Tax (UIPT) and Agriculture Income Tax (AIT). Proper development of these taxes can yield significant revenues. The strategy to mobilize higher tax revenues is presented in Box 4.3

Box 4.3: RESOURCE MOBILIZATION STRATEGY FOR PROVINCIAL TAXES

The Provincial Government can implement a number of reform measures to enhance of the revenue of the own tax revenues. Higher revenues from UIPT can be mobilized through updating of valuation tables, reduction in differential between owner occupied and rented properties, notification of new rating areas and facilitation of tax payers. During the financial year 2009-10, survey of properties has been completed and accordingly new valuation tables have been developed, reflecting market value of the properties. Phased implementation over the next three years of the above reforms can lead to significant revenue gains from UIPT.

⁵ Estimates based on "VAT on Services", Research Report prepared for the Federal Board of Revenue, Government of Pakistan by Institute of Public Policy, BNU.

Currently, the AIT generates only about Rs 770 million in revenues. Today, major crops (wheat, rice, cotton etc) receive world prices with subsidized inputs of fertilizer, water and electricity. Therefore, the conventional argument given against the levy of agricultural income tax of disguised taxation is no longer valid. Effective taxation of agricultural income will also remove perception of inequality in the tax system. A case can be made for the levy of a presumptive tax at the marketing stage of crops at a small rate of 2 to 3 percent. In addition, the AIT can be collected as a presumptive income tax on land holding. These proposals are being examined by the Provincial Government.

Higher resources can also be mobilized through other tax sources. Some proposals which can be implemented in a phased manner over the next three years are listed below:

1. Computerization of land record and imposition of valuation tables in rural areas will streamline Land Revenue and reduce leakage
2. Likewise, some revision in valuation tables/ DC tables every year to reduce the gap between the value of property assessed and the market value of properties and introduction of valuation tables in rural areas can boost stamp duty revenues.
3. In case of stamp duty on financial instruments like Debentures, TFCs and Commercial Paper the rate has already been reduced and the following policy actions may be considered:
 - a. The categories of fixed/ ad-valorem rates in various instruments to be reduced to create uniformity and simplicity in the structure of the duty;
 - b. Fixed as well as ad-valorem rates to be reduced wherever it is likely to boost economic activity, encourage compliance (or reduced evasion) and thereby increase revenue collection;
 - c. Subclasses of instruments to be eliminated wherever possible;
 - d. Duty on similar instruments to be levied at the same rates;
 - e. In case of instruments which can be executed in any province, stamp rates not to be set above rates prevalent in other provinces to avoid loss in revenue;
4. In the case of motor vehicle tax, proposals include review of payment of annual token tax through post office system and replacement with collection through the banking system, establishment of database of vehicles in Punjab, enforcement through spot checking by traffic wardens.

Non-tax receipts accrue mainly on account of regulatory functions performed by the provincial government and from rates and fees charged for the provision of certain social and economic services. An important cornerstone of the provincial resource mobilization strategy should be a move towards full operation and maintenance cost recovery in the case of economic services, law and order, community services, etc.

Implementation of the above resource mobilization strategy will raise provincial own-tax revenues (excluding RGST on services) to Rs. 59 billion in 2014-15 (see Table 4.1). Provincial non-tax receipts will increase to Rs. 34 billion over the period. Overall provincial own resource base will yield revenues of about Rs. 93 billion, excluding RGST. Inclusive of RGST, provincial own revenues are expected to increase to Rs. 178 billion by 2014-15.

4.4 The resource envelope

Overall, surpluses from general revenues receipts (projected above) net capital receipts, foreign assistance to projects and program assistance finance the ADP of the province. Projections of financing available for development as net capital receipts, foreign assistance and programs has been taken from the Medium Term Fiscal Framework of the Government of Punjab, 2010-11 to 2012-13, and projected to 2014-15 at, more or less, the same level. Historically, net public accounts receipts have also contributed in some years to funding development activity in the province. It is proposed to avoid this practice in future years. Table 4.2 summaries the resource envelope of the provincial government in the medium term framework from the above sources.

Federal Government revenue sharing transfers, straight transfers and grants will contribute Rs.419 billion to the provincial exchequer in 2010-11, increasing to Rs. 753 billion in 2014-15. The provincial own resources will further add Rs. 104.3 billion in 2010-11 increasing to Rs. 178.6 billion by 2014-15. Besides these, provinces will have financing available of Rs. 19.1 billion in 2010-11, increasing to Rs. 40 billion by 2014-15. Overall resources available to the provincial governments during the period of projection will increase from Rs. 437.7 billion in 2009-10 to Rs. 971 billion by 2014-15. As a percentage of the regional economy, the provincial resource availability will increase from 5.5 percent in 2010-11 to 5.9 percent by 2014-15.

4.5 Analysis of risk factors

The growth of about 19 percent on average in provincial resource availability from 2009-10 to 2014-15 is conditioned on a number of risk factors, including the following:

- i. The floods are expected to lead to a fall in the GDP growth rate by about 2.5 percentage points in 2010-11. Thereafter, the economy is expected to recover and show a growth rate of 4 percent in 2011-12 increasing to 5.5 percent by 2014-15, as highlighted earlier. If, however, the economy slows down more than anticipated in 2010-11 or if the recovery thereafter is slower, then the projected growth rate in FBR revenues, which determine the size of the divisible pool, could be lower than projected earlier in this Chapter. For every one percentage point lower growth in the GDP, FBR revenues are lower by Rs 15 to 20 billion annually.
- ii. The Budget Strategy Paper-2 of the Federal Government envisages major improvements in tax administration by FBR. These include strengthening of the audit process, mechanisms for detection of filers and non-filers, simplification of processes, etc. Such improvements are expected to fetch on additional 0.2 percent of the GDP in revenues by 2012-13. If, however, these reforms are not implemented fully or if they do not yield the desired revenues, then FBR revenues could be lower by Rs 54 billion in 2014-15, implying lower transfers to Punjab of 14 billion.
- iii. As highlighted earlier, the fastest growth in provincial own-tax revenues is likely to be in the RGST on services. This is based on the assumption that the provinces will promulgate legislation to introduce a broad-based RGST on services, excluding only education and health, and that consensus will be reached on the sharing of the revenues among the provinces latest by the beginning of the next fiscal year. Thereafter, the tax will build-up to yield 0.8 percent of GDP in revenues by 2014-15. If, however, there are delays in the implementation of the broad-based GST on services, then the growth in provincial own-tax revenues could be significantly lower. In this case, provincial resources could be lower by over Rs. 40 billion by 2014-15.

A relatively fast growth rate of 16 percent has also been projected upto 2014-15 in provincial own-tax revenues (excluding RGST on services). This is based on the assumption that the provincial government will develop promising revenue sources like the UIPT, AIT, etc. But if the existing revenue sources continue to grow only according to the historical rate of buoyancy with respect to the regional economy, then revenues are likely to be somewhat lower by Rs. 5 to Rs. 8 billion.

Section 5: Links between development and current expenditure

5. Links between development and current expenditure

Following the projection of the Resource Envelope, we are now in the position to project expenditures. To do so we need to establish the link between development and current expenditure.

The objective of this Chapter is to determine the link between development and current expenditure for each major function performed by the provincial government as listed below:

Code	Description of Function
01	General Public Service
02	Defence Affairs and Services
03	Public Order and Safety Affairs
04	Economic Affairs
05	Environment Protection
06	Housing and Community Activities
07	Health
08	Recreation, Culture and Religion
09	Education Affairs and Services
10	Social Protection

Different approaches can be adopted for estimating quantitatively the link between development expenditure and the resulting downstream recurring expenditure liabilities. First, the allocation made in the Schedule of New Expenditure (SNE) can be linked to the completion of development schemes on a particular function. However, this analysis is rendered difficult by the lack of a long term time series of past SNEs. A similar approach, but which is more feasible to implement due to availability of data, is to relate current expenditure (which includes new expenditure) on a function with the past stream of development expenditure on the basis of econometric analysis. But for this approach to work, it is essential that the analysis be conducted at constant prices to identify the relationship in real terms and years where there is clear under provisioning of O&M expenditure have to be excluded from the analysis so that the impact of development expenditure on current expenditure subsequently is not understated.

An alternative approach is to look at the recurring expenditure provided in the PCIs of development schemes or base the former on certain norms or standards for O&M. This is a very voluminous exercise and requires knowledge of the diverse portfolio of development schemes down to individual schemes which could exceed 2000 to 3000 in number over the next five years. Also, while desirable, adherence to relatively high standards of O&M may not always be feasible for a resource constrained government.

Given the availability of data, we have adopted the first approach of econometric analysis to estimating the relationship between development and current expenditure. However, the Model of Provincial Finances developed as a tool for this exercise has the ability to incorporate standards of O&M, if so desired by the Provincial Government.

We discuss below the composition of expenditure on each function and explore the link between development and current expenditure.

5.1 General public services

This consists primarily of expenditure on, first, executive and legislative organs, financial and fiscal affairs, external affairs, second, transfers to local governments and, third, miscellaneous expenditures. In 2009-10, the respective shares were 22 percent, 77 percent and 1 percent respectively.

The trend in expenditure on this function is given from 1997-98 onwards in Table 5.1. Inclusion of grants to local governments after the implementation of the Devolution Plan promulgated by the previous government led to a quantum jump in expenditure under this head after 2001-02. The component of development expenditure also increased because of the need to expand the network of newly decentralized services, especially education and health.

Since then there was a period of relatively slow growth in expenditure from 2003-04 to 2004-05, largely due to slow growth in revenue receipts. There was substantially faster growth thereafter upto 2006-07. In recent years, the growth has moderated once again. In 2009-10, development expenditure was cut primarily due to the reversion of secondary education back to the provincial government.

Budget estimates for 2010-11 reveal a big increase proposed in current expenditure of over 30 percent. This is largely due to the announcement of 50 percent increase in salaries and in allowances for employees. But the development allocation has been scaled back by almost Rs 13 billion.

Table 5.1: TREND IN CURRENT AND DEVELOPMENT EXPENDITURE ON GENERAL PUBLIC SERVICES					
(Rs. in Billion)					
	Current Expenditure	Share (%)	Development Expenditure	Share (%)	Total Expenditure
1997-98	23.8	89.1	2.0	10.9	25.8
1998-99	25.7	88.9	3.2	11.1	28.9
1999-00	35.2	90.5	3.7	9.5	38.9
2000-01	35.5	95.4	1.7	4.6	37.2
2001-02	36.4	65.3	19.3	34.7	55.7
2002-03	81.9	83.5	16.2	16.5	98.1
2003-04	88.5	87.7	12.4	12.3	100.9
2004-05	91.1	79.5	23.5	20.5	114.6
2005-06	106.4	80.0	26.5	20.0	132.9
2006-07	123.8	77.0	36.9	23.0	160.7

2007-08	147.3	78.7	39.8	21.3	187.1
2008-09	145.3	72.5	54.9	27.5	200.2
2009-10	170.7	83.7	33.2	16.3	203.9
2010-11 (B.E)	222.1	91.6	20.4	8.4	242.5
Annual Growth Rate (%):					
1997-98 to 2009-10	17.8		26.4		18.8
2009-10 to 2010-11 (B.E)	30.1		-38.6		18.9

Econometric analysis (see Technical Annexure A-2) indicates no significant relationship between lagged (previous years') development expenditure and current expenditure. This is not unexpected as according to the PFC Awards grants to the local governments are linked to revenue receipts.

As such, the forecasting equation for current expenditure (at constant prices) on this function is derived as:

$$CE01 = 43.9 + 0.191RR \quad \dots\dots\dots(1)$$

Where CE01 = current expenditure on public services, RR = total revenue receipts, on the basis of historical trends. The corresponding equation for development expenditure (at constant prices) is

$$DE01 = (3.7 + 0.53T) * DE/100 \quad \dots\dots\dots(2)$$

Where DE = total development expenditure and T = time variable (T=15 in 2010-11 and so on)

5.2 Defence affairs and services

There are no expenditures by the provincial government on these functions.

5.3 Public order and safety affairs

This includes expenditure on, first, law courts; second, police; third, prison operations and, fourth, miscellaneous expenditure. The respective shares are 10, 77, 6 and 7 percent.

Table 5.2 shows that public order and safety affairs has been a very fast growing function, especially on the police after 2002-03, with the onset of the war on terror. Enhancement in salaries of judges and the police force explain the rapid growth in expenditure during the last few years. The share of development expenditure is very small in this function. Expansion in services under this head is primarily in the form of increase in the number of personnel.

As such, the equation estimated for forecasting current expenditure (at constant prices) on this function is as follows:

$$CE03 = -5.4 + 0.164RR \quad \dots\dots\dots(3)$$

Where CE03 = current expenditure on public order and safety affairs, RR = total revenue receipts. The equation indicates that a one rupee increase in revenue receipts can lead to a sixteen paisa increase in current expenditure.

The corresponding development expenditure (at constant prices) equation used for forecasting is as follows:

$$DE03 = (0.004 + 1.115 SE03(-1)) * DE/100 \quad \dots\dots\dots(4)$$

Where SE03(-1) = share in total development expenditure lagged by one year.

Table 5.2: TREND IN CURRENT AND DEVELOPMENT EXPENDITURE ON PUBLIC ORDER AND SAFETY AFFAIRS					
(Rs. in Billion)					
	Current Expenditure	Share (%)	Development Expenditure	Share (%)	Total Expenditure
1997-98	7.3	100.0	-	-	7.3
1998-99	7.9	100.0	-	-	7.9
1999-2000	8.9	100.0	-	-	8.9
2000-01	10.0	100.0	-	-	10.0
2001-02	11.1	100.0	-	-	11.1
2002-03	13.7	100.0	-	-	13.7
2003-04	19.8	100.0	-	-	19.8
2004-05	20.5	100.0	-	-	20.5
2005-06	24.7	100.0	-	-	24.7
2006-07	32.3	100.0	-	-	32.3
2007-08	36.3	99.7	0.1	0.3	36.4
2008-09	48.4	99.4	0.3	0.6	48.7
2009-10	59.5	96.1	2.4	3.9	61.9
2010-11 (B.E)	63.0	94.9	3.4	5.1	66.4
Annual Growth Rate (%):	-	-	-	-	-
1997-98 to 2009-10	19.1	-	-	-	19.4
2009-10 to 2010-11 (B.E)	5.9	-	41.7	-	7.3

5.4 Economic affairs

This function includes, first, agriculture, food, irrigation, forestry and fishing; second, mining and manufacturing; third, construction and transport; and, fourth, miscellaneous expenditure. The respective shares are 37, 5, 57 and 1 percent. Table 5.3 gives the evolution of expenditure on this function. Recurring expenditures have historically shown slow growth of 9 percent only. In fact, there is evidence of under provisioning for O&M in the period, 2001-02 to 2005-06. There was a jump in expenditure in 2008-09 following the launching of a major food subsidy program, the Sasti Roti scheme.

Table 5.3: TREND IN CURRENT AND DEVELOPMENT EXPENDITURE ON ECONOMIC AFFAIRS					
(Rs. in Billion)					
	Current Expenditure	Share (%)	Development Expenditure	Share (%)	Total Expenditure
1997-98	14.1	71.2	5.7	28.8	19.8
1998-99	15.7	74.8	5.3	25.2	21.0
1999-2000	16.3	76.9	4.9	23.1	21.2
2000-01	16.4	71.3	6.6	28.7	23.0
2001-02	14.8	84.0	2.8	16.0	17.6
2002-03	12.4	75.1	4.1	24.9	16.5
2003-04	12.9	54.9	10.6	45.1	23.5
2004-05	13.2	36.7	22.8	63.3	36.0
2005-06	14.9	25.8	42.8	74.2	57.7
2006-07	17.7	21.5	64.7	78.5	82.4
2007-08	18.1	22.8	61.2	77.2	79.3
2008-09	37.1	33.6	73.3	66.4	110.4
2009-10	39.7	36.9	67.9	63.1	107.6
2010-11 (B.E)	44.9	29.1	109.5	70.9	154.4
Annual Growth Rate (%):	-	-	-	-	-
1997-98 to 2009-10	9.0	-	22.9	-	15.1
2009-10 to 2010-11 (B.E)	13.1	-	61.3	-	43.5

Development expenditures have also shown very rapid growth, especially after 2002-03. These expenditures are primarily for the development of the highway network.

The contrasting trends in the growth of current and development expenditures indicates that in this function development expenditures do not create major downstream recurring liabilities. As such the forecasting equation for current expenditure is derived as follows:

$$CE_{04} = 0.069 DE_{04}(-1) + 0.843 CE_{04}(-1) \quad \dots\dots\dots(5)$$

Where CE₀₄ = current expenditure, CE₀₄(-1) = current expenditure lagged by one year, DE₀₄(-1) = development expenditure lagged by one year.

It may be observed that the coefficient of lagged development expenditure is relatively small at 0.069. This implies that the increase in current expenditures following the completion of development schemes is relatively small.

The share of development allocation to this function from ADP is large and the development expenditure, DE04 (at constant prices) is forecast as follows:

$$DE04 = (48.096 + 0.501T) * DE/100 \quad \dots\dots\dots(6)$$

This indicates that the share in ADP of Economic Affairs is expected to rise annually by 0.5 percent, if historical trends continue.

5.5 Environment protection

Expenditures on this function are very small and are, therefore, projected to stay in real terms at, more or less, the level attained in 2009-10.

5.6 Housing and community development

This function includes housing development, local schemes of community development and water supply with shares of 4, 61 and 35 percent respectively.

Table 5.4 shows that this a development expenditure-intensive function. Capital expenditures incurred in the expansion of the service network do not create major O&M liabilities, although there are indications of under provisioning of O&M, especially during the years, 2002-03 to 2004-05.

The equation for forecasting current expenditure, C06, at constant prices is as follows:

$$CE06 = 0.469 + 0.034 DE06(-1) \quad \dots\dots\dots(7)$$

Where DE06(-1) is the development expenditure lagged by one year. The coefficient of this variable is small at 0.034. Development expenditure on this function is taken as a residual after allowing for the shares of other functions in the projected ADP.

Table 5.4: TREND IN CURRENT AND DEVELOPMENT EXPENDITURE IN HOUSING AND COMMUNITY DEVELOPMENT					
(Rs. in Billion)					
	Current Expenditure	Share (%)	Development Expenditure	Share (%)	Total Expenditure
1997-98	1.2	63.1	0.7	0.7	1.9
1998-99	0.6	23.1	2.0	76.9	2.6
1999-00	0.6	20.0	2.4	80.0	3.0
2000-01	1.1	18.6	4.8	81.4	5.9
2001-02	0.8	100.0	-	0.0	0.8
2002-03	0.2	9.1	2.0	90.0	2.2
2003-04	0.4	8.7	4.2	91.3	4.6
2004-05	0.3	5.6	5.1	94.4	5.4
2005-06	1.1	8.7	11.5	91.3	12.6

2006-07	0.8	3.4	23.6	96.6	24.4
2007-08	1.2	5.2	22.0	94.8	23.2
2008-09	1.3	4.5	27.8	95.5	29.1
2009-10	1.6	5.7	26.3	94.3	27.9
2010-11(B.E)	3.5	13.4	22.7	86.6	26.2
Annual Growth Rate (%):					
1997-98 to 2009-10	2.4		35.3		25.1
2009-10 to 2010-11 (B.E)	118.7		-13.7		-6.1

5.7 Health

Performance of this function involves the provision of hospital services, public health services and health administration with shares in expenditure of 80, 6 and 14 percent respectively.

Table 5.5 presents the trend in expenditures on this function. There appears to have been a low priority to expansion in the coverage of health services upto 2004-05 and this was reflected in small development allocations. Since then the expenditure on this function is more balanced between current and development expenditure. In 2010-11 there is a quantum jump proposed in the development allocation for health.

There appears to be strong link between development expenditure and the consequential increase in recurring expenditure, given the labor-intensive nature of this service

Table 5.5: TREND IN CURRENT AND DEVELOPMENT EXPENDITURE IN HEALTH					
(Rs. in Billion)					
	Current Expenditure	Share (%)	Development Expenditure	Share (%)	Total Expenditure
1997-98	5.3	82.8	1.1	17.2	6.4
1998-99	5.6	88.8	0.7	11.2	6.3
1999-2000	6.4	90.1	0.7	9.9	7.1
2000-01	7.1	95.9	0.3	4.1	7.4
2001-02	8.5	97.7	0.2	2.3	8.7
2002-03	4.2	91.3	0.4	8.7	4.6
2003-04	5.8	86.6	0.9	13.4	6.7
2004-05	5.5	78.6	1.5	21.4	7.0
2005-06	6.2	72.9	2.3	27.1	8.5
2006-07	8.1	69.8	3.5	30.2	11.6
2007-08	9.0	64.3	5.0	35.7	14.0
2008-09	15.3	70.2	6.5	29.8	21.8

2009-10	22.2	78.7	6.0	21.3	28.2
2010-11 (B.E)	22.0	62.1	13.4	37.8	35.4
Annual Growth Rate (%)					
1997-98 to 2009-10	12.7		15.2		13.8
2009-10 to 2010-11 (B.E)	-1.0		123.3		25.5

The resulting equation for current expenditure, CE07, is given below

$$CE07 = 2.316 + 0.678 DE07(-1) + 0.760 CE07 \quad \dots\dots\dots(8)$$

It may be observed that the coefficient of the lagged development expenditure, DE07(-1) is quite large at 0.678. This implies that one rupee increase in development expenditure imposes a downstream current expenditure liability of as much as 68 paisas, as described later.

The corresponding equation for development expenditure is as follows:

$$DE07 = (2.489 + 0.315T) * DE/100 \quad \dots\dots\dots(9)$$

This indicates that the share of health in the ADP will rise by about 0.3 percent per annum.

5.8 Recreation, culture and religion

Given the small magnitude of expenditure on this function it has been fixed, more or less, at the level of real expenditure in 2009-10.

5.9 Education affairs and services

Secondary education has reverted back to the provincial government recently and this change is fully reflected in the last budget. Accordingly, this function now includes secondary education, and tertiary education. The responsibility for primary education continues to rest primarily with local governments.

Table 5.6 demonstrates the extreme variability in education expenditures. There is a big jump in current expenditure on tertiary education from 2006-07 onwards. Also, since 2008-09 there is a big increase in expenditure on education affairs and services not elsewhere classified. Overall, the sector, as expected, is current expenditure-intensive and there are likely to be strong downstream implications of a rise in development expenditure.

Table 5.6: TREND IN CURRENT AND DEVELOPMENT EXPENDITURE EDUCATION AFFAIRS AND SERVICES					
(Rs. in Billion)					
	Current Expenditure	Share (%)	Development Expenditure	Share (%)	Total Expenditure
1997-98	25.4	94.4	1.5	5.6	26.9

1998-99	25.7	95.9	1.1	4.1	26.8
1999-00	26.3	98.1	0.5	1.9	26.8
2000-01	27.6	98.6	0.4	1.4	28.0
2001-02	28.2	98.9	0.3	1.1	28.5
2002-03	1.6	80.0	0.4	20.0	2.0
2003-04	2.4	27.3	6.4	72.7	8.8
2004-05	4.6	65.7	2.4	34.3	7.0
2005-06	5.2	81.2	1.4	18.8	6.4
2006-07	15.8	79.0	4.2	21.0	20.0
2007-08	16.2	71.1	6.6	28.9	22.8
2008-09	32.0	80.6	7.7	19.4	39.7
2009-10	21.5	75.7	6.9	24.3	28.4
2010-11 (B.E)	28.9	58.2	20.7	41.8	49.6
Annual Growth Rate (%)					
1997-98 to 2009-10					
2009-10 to 2010-11 (B.E)					

As such, the forecasting equation for current expenditure, CE09, is given by

$$CE09 = 0.264 + 0.948 RE09(-1) + 0.598 DE09(-1) \quad \dots\dots\dots(10)$$

A one rupee increase in development expenditure, DE09, leads to an almost 60 paisa in current expenditure with a lag of one year.

The development expenditure equation is as follows:

$$DE09 = (13.639 - 0.230T) * DE/100 \quad \dots\dots\dots(11)$$

The expenditure is that after the big jump in the share of education in the ADP in 2010-11, the share will fall gradually by 0.23 percentage points annually, on the basis of historical trends.

5.10 Social protection

Expenditures on this function are also relatively small and have, therefore, been pitched close to the real level attained in 2009-10.

5.11 High Impact on Recurring Expenditure in Health and Education

The downstream liabilities of O&M expenditures created by the execution of development schemes in the health and education sectors appear to be relatively high as compared to other functions. This is indicated by the relatively large magnitude of the coefficient of lagged development expenditures in equations (8) and (10) above.

Education and health services delivery clearly is relatively labor-intensive in character. As schemes get completed, provisions have to be made for the running of the new

schools, colleges, health centres and hospitals. Therefore, the downstream implications arise following the completion of schemes. As such, the coefficient in the equations has to be interpreted in the following way:

DE(-1) = lagged development expenditures

ACE(-1) = allocation for completion of schemes in last year's development expenditure

CC(-1) = Capital Cost of schemes completed.

rc = ratio of recurrent to capital cost of completed schemes

Downstream Liability = $rc \cdot CC(-1)$

$$= \left[rc \cdot \frac{CC(-1)}{DE(-1)} \right] DE(-1)$$

Therefore, if $CC(-1) > DE(-1)$, which is likely to be the case if implementation of schemes is spread over a number of years then the coefficient of DE(-1) is likely to be larger than the underlying ratio, rc.

A summary of the development/ current expenditure link is presented in Box 5.1. Clearly, development spending impose significant downstream recurrent expenditure liabilities with a one year lag in health, education, housing and community development and economic affairs. The highest impact is in health followed by education.

Box 5.1: SUMMARY OF THE RELATIONSHIP BETWEEN DEVELOPMENT AND CURRENT EXPENDITURE BY FUNCTION*

Re. 1 Increase in Development Expenditure will Lead to Increase in Current Expenditure by:

General Public Services	Insignificant
Defence Affairs and Services	Insignificant
Public Order and Safety Affairs	Insignificant
Economic Affairs	7 paisas**
Environmental Protection	Insignificant
Housing and Community Development	3 paisas**
Health	68 paisas**
Recreation, Culture and Religion	Insignificant
Education	60 paisas**
Social Protection	Insignificant

* Derived from the above equations

**with a one year lag in development expenditure.

The eleven equations above which show the evolution of expenditures on different functions alongwith the links between development and current expenditures form part of the Model of Provincial Finances which is used for projecting the size and composition of the provincial budget upto 2014-15 under different assumptions in Chapter 8.

Section 6: The medium term development framework

6. The medium term development framework

As mentioned earlier, the Government of Punjab has initiated the practice of developing a rolling MTDP to streamline and rationalize its development priorities in a medium term framework. The expectation is that this will guide the annual ADP allocations. Key features of the MTDF include: first, a management by results framework, especially in terms of achieving the MDGs; second, adequate funding for foreign aided and mega projects; third, focus on lesser developed districts; fourth, emphasis on on-going projects and reduction of the throw-forward; fifth, continued emphasis on rural development, and; sixth, stress on allocation to pro-poor sectors in line with the MDGs.

6.1 Key development goals and objectives

The MTDF enunciates the development goals and objectives of the Government of Punjab over the medium term framework. Goals and objectives are mostly aligned with the corresponding national development goals and objectives as well as are harmonized with the development goals under international commitments. Though development goals at the national level seek to consolidate economic stability and to put economy on recovery path⁶, development objectives at the provincial level are aimed at enhancing the state's responsibility in the provision of basic social services to the masses.

6.2 Education

Literacy improvement is mostly pursued through development policies aiming at fostering education related MDGs in the medium term. In this perspective, a policy framework has been developed aiming at enhancing quality education at schools, enhanced and easy access to education facilities, and promoting good governance practices in the government institutions imparting education. The targets are to achieve universal primary education side by side with achieving full participation rates. The provision of basic education services has been devolved. The Provincial Government supports local governments through different interventions under various programs focused on improving the capacity of teachers and managers, provision of I.T./science labs and libraries, provision of quality text books along with up-gradation of schools to next higher level and provision of missing facilities.

Higher education, however, is the responsibility the Provincial Government. Improvement of quality education, equitable and enhanced access to higher education, up-gradation and development of higher education infrastructure are the strategic interventions for improving higher education standards in the Province.

6.3 Health

Punjab Government aims to provide medical facilities throughout the province, in partnership with private sector. The objectives are to have measurable impact on MDGs; promote regional equity; provide improved primary, secondary and tertiary health care through inclusion of needs based schemes and, align the current pro-poor investment. The Government's pro-poor strategic interventions in health sector during the past few years have been hailed by various segments of society. Provision of free medicines and modern diagnostic and treatment facilities at various medical institutions, creation of emergency services blocks at DHQ hospitals, capacity building and state of the art modern centers of excellence among others are notable interventions of the Government.

⁶ Annual Plan 2010-11, Government of Pakistan

6.4 Economic infrastructure

The Government of Punjab is also developing the economic infrastructure to foster growth in the province. Road densities are being improved through rehabilitation and expansion of the existing infrastructure including the inter-district network and the accessibility of rural areas to the highways thereby connecting them to district markets. The Provincial Government also aids the local governments in improving intra-city road infrastructure through the development portfolio being pursued in MTDF 2010-13. Key sectoral priorities include: consolidating existing roads through improvements; completion of on-going schemes for roads/ bridges; developing secondary routes linking national motorways/ trade corridors; dualizing main arteries; and, improving design and safety.

Similarly, the development needs in the irrigation sector are identified which mostly revolve around ensuring sustainability of irrigation supplies, modernization of irrigation infrastructure, optimization in the use of surface and groundwater aiming at maximizing agricultural productivity, and to develop renewable energy resource base through small dams and allied technologies with specific focus on developing PPPs and fostering institutional reforms to accelerate improved service delivery targets.

Production and services sectors' development objectives seek to enhance productivity of the relevant sectors mostly through developing sector infrastructure, developing capacities and competencies among the sector stakeholders enabling them to effectively play part in socio-economic development, fostering public-private partnership, market development through mitigation of market imperfections, modernization through enhanced research & development and training, enhanced accessibilities to facilities, and development and expansion of means of mass communication.

6.5 Sectoral allocations

Table 6.1 presents the shares of different sectors in the MTDF. Details of the MTDF are presented in Annexure A-3. Total development outlay is projected to increase from Rs. 182 billion in 2010-11 to Rs. 212 billion by 2012-13. At current prices, the outlay will increase to Rs. 320 billion by 2014-15. Social sectors enjoy the highest priority in the MTDF. With an initial allocation of Rs. 68 billion, their share rises from 37.5 percent to over 40 percent by 2012-13 of the total development programme. This is a clear indication of the emphasis placed by the Government of Punjab on human development and alleviation of poverty. Within social sectors, highest priority is for education, with a share of 12.8 percent increasing to 14.1 percent over the period. Health, on the other hand, has been projected to have a modest increase in its share in the ADP.

Table 6.1: MEDIUM TERM DEVELOPMENT FRAMEWORK, 2010-13 (Rs. in billion)						
Sectors	Allocations		Projections			
	2010-11	(% of Total)	2011-12	(% of Total)	2012-13	(% of Total)
A.Social Sectors	68.2	37.5	76.1	39.0	85.1	40.1
Education	23.3	12.8	26.2	13.4	29.9	14.1
Health	14.5	8.0	16.7	8.6	18.0	8.5
B.Infrastructure Development	59.3	32.6	63.1	32.4	67.7	31.9
C.Production Sectors	7.0	3.8	8.3	4.3	9.5	4.5
D.Services Sector	7.0	3.8	8.1	4.2	9.2	4.3
E.Others	6.4	3.5	7.3	3.7	8.5	4.0
Total Programme Core	147.9	81.3	163.0	83.5	180.0	84.9
F.Special Programm/Packages	34.1	18.7	32.0	16.4	32.0	15.2
Total Development Programme	182.0	100.0	195.0		212.0	100.0

Infrastructure allocations are large at Rs. 59 billion in 2010-11, with a share of about 32 percent. These allocations are expected to remove the constraints to achieving higher growth in the province. The total Core Programme is expected to take up 81 to 85 percent of the resources available for development in the MTDF and increase from almost Rs. 148 billion in 2010-11 to Rs. 180 billion by 2012-13. Special programmes and packages account for the remainder and include the district/TMA development programme, the Lahore Ring Road, new initiatives like medical colleges, etc.

6.6 Feasibility of financing MTDF

The important question that arises is that: given the resource availability in the next five years, is the MTDF financially sustainable? As highlighted in Chapter 2, if the budgetary framework is resource driven, the first claim on available resources is of current expenditures, in which a major proportion is non-discretionary which includes salaries, allowances, pensions etc of government employees and debt servicing. Funding for the recurrent liabilities created by past development should also be accounted for. The resource surplus thus available alongwith funding from sources like net capital receipts, foreign funding and capital markets constitute funding for further development in the province.

Table 6.2 presents the MTDF outlays at constant and current prices (adjusted for inflation in future years). The table also presents the maximum resources available for development, given the resource envelope and projected recurrent expenditure liabilities. The table shows that, MTDF may not be fully implemented given the level of resources projected in the base scenario in this report. The shortfall is 10.2 percent in 2010-11 decreasing to 1.1 percent in the last year of analysis. It appears that the province will have to resort to higher resource mobilization, and/or leverage the capital market and/or partner with the private sector to achieve the level of development activity envisaged in the MTDF.

Table 6.2: FINANCIAL FEASIBILITY OF MTDF				
	(Rs. in Billion)			
	MTDF (at constant prices) [A]	MTDF (at current prices) [B]	Feasible Projected Development Expenditures* [C]	Likely Attainment of MTDF (%) [C] as % of [B]
2010-11	182.0	182.0	163.4	89.7
2011-12	195.0	213.5	205.1	96.1
2012-13	212.0	249.5	238.4	95.5
2013-14	229.0	285.7	278.1	97.3
2014-15	242.3	320.5	316.9	98.9
ACGR%	7.4%	15.2%	18.0%	
*on the basis of projected resource availability and likely levels of current expenditure, as given in Chapter 7				

Alternative instruments and financing sources for development programming which have the potential for involvement of the private sector, donors and other stakeholders include: (i) establishment of Punjab Development Fund (PDF) with matching donor funding which will instill joint responsibility and accountability of key public and private authorities in planning, implementing and monitoring projects/ programmes which are crucial to the provinces' development needs; (ii) Public-Private Partnerships (PPPs) initially with modest expectations, these can be employed to fill commercially viable infrastructures gaps. The PPP cell already established in the P&D department needs to focus on preparation of legislation for a provincial Infrastructure Authority Act to primarily focus on facilitating private developers/ investors and prepare project feasibility studies for PPPs.

Section 7: Sensitivity analysis of expenditures

7. Sensitivity analysis of expenditures

Based on the relationship developed in Chapter 5 between development and current expenditures on different functions by the provincial government we are in a position to develop different scenarios given the resource outlook. These scenarios will highlight changes in level of current and development expenditure from 2010-11 to 2014-15 depending upon different assumptions as follows:

Baseline Scenario: based on resource projections of revenue and capital receipts in Chapter 4 and in line with the projection of shares in ADP of different functions on the basis of historical trends.

Scenario with a Shortfall in Revenues: based on a 10 percent reduction in projected revenue receipts in the baseline scenario, but with the same development priorities as in the baseline scenario.

Scenario with MTDF: based on the projection of revenue receipts in the baseline scenario and projected size of ADP in line with MTDF⁷. The objective here is to determine the required level of borrowings or quantum of higher revenue mobilization.

BASELINE SCENARIO

The equations of the Model of Provincial Finances used for projecting the Baseline Scenario are given in Annexure A-3. The forecast of the key budgetary magnitudes upto 2014-15 under the assumptions in the base line scenario is presented in Table 7.1. It is expected that in real terms (at constant prices of 1999-2000) provincial receipts will rise annually at the average rate of 7.8 percent and total expenditure also by, more or less, the same rate. At current prices, this will translate into an average growth rate in provincial revenue receipts of 17.1 percent and in total expenditure of 16 percent at current prices.

During 2010-11, it is likely that the growth rate in expenditure will be restricted by a large fall in net capital receipts due to the virtual cessation in development grants by the federal government and tightening of limits to borrowings by provincial governments in the aftermath of the NFC Award. Beyond 2010-11 the annual growth rates in real budgetary magnitudes are expected to show a variable pattern. However, from 2012-13 onwards, the annual growth rate in real development expenditure is expected to exceed that of current expenditure by over 1.5 percentage points annually. **Consequently, the share of the ADP in the provincial budget is projected to rise from 31.3 percent in 2009-10 to 32.4 percent by 2014-15 (see Table 7.2).**

⁷ Assumed 8% real growth in 2013-14 and 2014-15

Table 7.1: BASELINE SCENARIO Description: Based on Historical Trends (Rs In Billion)								
Year	Total Revenue Receipts	Growth Rate %	Current Expenditure	Growth Rate %	Development Expenditure	Growth Rate %	Net Capital Receipts	Growth Rate
At Constant Price of 1999-2000								
2009-10	173.6		143.1		61.7		16.6	
2010-11	187.5	7.9	148.9	4.1	60.5	-2.0	7.0	-57.8
2011-12	202.2	7.9	159.4	7.1	66.3	9.5	7.5	7.1
2012-13	216.2	7.0	170.0	6.7	72.6	9.5	9.2	22.7
2013-14	233.1	7.8	182.0	7.0	79.6	9.6	10.1	9.8
2014-15	252.4	8.3	195.2	7.3	88.0	10.6	10.9	7.9
Average		7.8		6.4		7.4		-8.1
At Current Prices								
2009-10	423.4		318.2		145.6		40.4	
2010-11	523.1	23.5	379.2	19.2	163.4	12.3	19.5	-51.7
2011-12	617.8	18.1	444.6	17.2	196.0	19.9	22.8	16.9
2012-13	710.3	15.0	509.9	14.7	230.8	17.8	30.4	33.3
2013-14	811.5	14.2	573.4	13.4	268.3	16.2	35.1	15.5
2014-15	931.6	14.8	657.6	13.7	314.4	17.2	40.4	15.1
Average		17.1		15.6		16.6		0.0
Note: * Based on Revised Estimates.								

Table 7.2: MIX OF CURRENT AND DEVELOPMENT EXPENDITURES
[Baseline Scenario]

	Total Provincial Expenditure (Rs in Billion)	% share of	
		Total Current Expenditure	Total Development Expenditure
2009-10	463.8	68.7	31.3
2010-11	542.6	69.9	30.1
2011-12	640.6	69.4	30.6
2012-13	740.7	68.8	31.2
2013-14	841.7	68.1	31.9
2014-15	972.0	67.6	32.4

Expenditure projections by function in the baseline scenario indicate that in recurring expenditure the **shares of general public services and economic affairs will fall while that of health and education will rise**. The share of public order and safety affairs is expected to remain, more or less, unchanged. As opposed to this, the share of economic affairs in development expected is projected to rise significantly and cut into the share primarily of housing and community amenities.

7.1 Scenario with 10 percent: shortfall in revenues

In this scenario we undertake sensitivity analysis with revenue receipts 10 percent lower than in the baseline scenario in 2010-11. The consequences of this shortfall are presented in Table 7.3. Revenue receipts are lower by about Rs 52 billion in 2010-11. Initially, bulk of the adjustment falls on the ADP which will have to be scaled back in relation to the baseline scenario by over Rs. 51 billion.

Table 7.3: DIFFERENCE IN EXPENDITURE DUE TO 10% LESS REVENUES THAN IN THE BASELINE SCENARIO
(at Current Price)

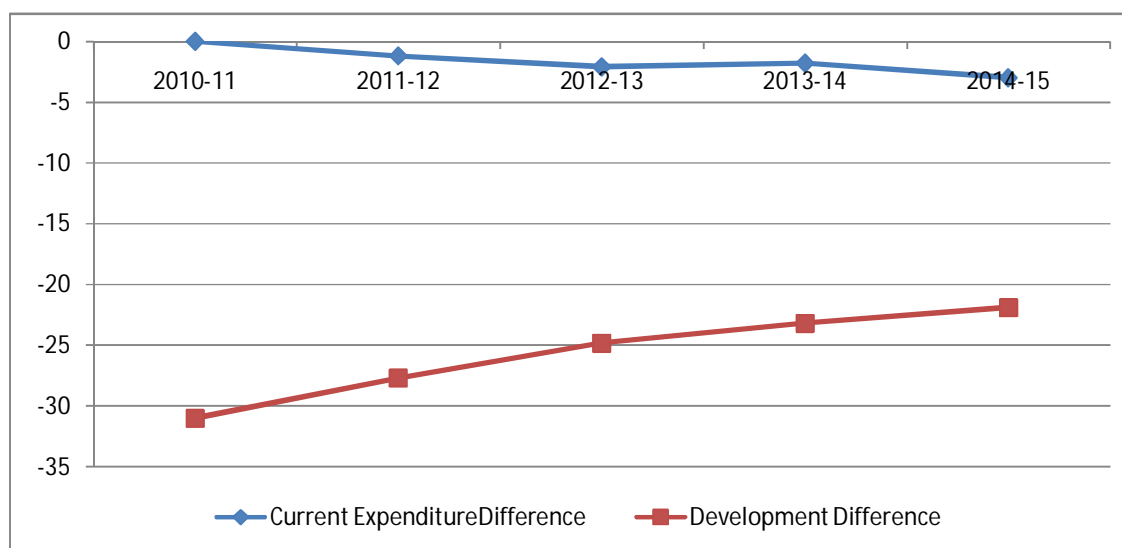
	Revenue Receipts			Current Expenditures			Development Expenditures		
	Baseline	Scenario*	Difference	Baseline	Scenari*	Difference	Baseline	Scenario*	Difference
2009-10	423.4	423.4	0.0	318.2	318.2	0.0	145.6	145.6	0.0
2010-11	523.1	470.8	-52.3	379.2	379.2	0	163.4	112.7	-50.7
2011-12	617.8	556.0	-61.8	444.6	439.4	-5.2	196.0	141.7	-54.3
2012-13	710.3	639.3	-71.0	509.9	499.1	-10.8	230.8	173.5	-57.3
2013-14	811.5	730.3	-81.2	573.4	562.8	-10.6	268.3	206.1	-62.2
2014-15	931.6	838.4	-93.2	657.6	637.8	-19.8	314.4	245.2	-68.9

Scenario I: *10% lower revenue receipts than in the baseline scenario

Gradually, as the cutback in development expenditure reduces the downstream liabilities of recurring expenditure, some fiscal space is created for an enhancement in the

development budget. Consequently, while there is an initial cutback in 2010-11 of about a third in the size of the ADP in relation to the baseline scenario, the required scaling down is 21 percent in 2014-15. As opposed to this, while the extent of reduction in current expenditure in 2010-11 as compared to the baseline scenario is about 1.2 percent, it rises to almost 3 percent by 2014-15, as shown in Figure 7.1.

Figure 7.1: PERCENTAGE CHANGE IN CURRENT AND DEVELOPMENT EXPENDITURES IN RELATED TO THE BASE SCENARIO DUE TO A 10% SHORTFALL IN REVENUE RECEIPTS



Change in Mix of Development and Current expenditures – in case of shortfalls

The change in the mix of current and development expenditures under different levels of shortfall in revenue expenditures is given in Table 7.4. The Table shows that the historical expenditure mix of about **70 percent current and 30 percent development** will not be feasible in the event of a shortfall in provincial revenues.

The recently finalized Medium term Fiscal Framework, 2010-11 to 2012-13, prepared by the Finance Department projects a **decline of about 2 to 4 percent in revenue receipts** as compared to the baseline scenario. This leads to a change in the mix of expenditure.

In **2010-11** the share of development expenditure falls down to **25.3 percent**, with a **5 percent revenue shortfall** this share falls to **25 percent**, falling further down to only **about 20 percent** in case of a **15 percent revenue shortfall**. The development expenditure in this case in 2010-11 will be as low as Rs 94 billion. Clearly, the current/development expenditure mix is very sensitive to the revenue availability to the Government.

Table 7.4 MIX OF CURRENT AND DEVELOPMENT EXPENDITURE UNDER DIFFERENT LEVELS OF SHORTFALL IN REVENUE RECEIPTS

MTFF Resource	Shortfall in Revenue Receipts			
	5%	10%	12%	15%

	% Share of Current Expenditure	% Share of Development Expenditure	% Share of Current Expenditure	% Share of Development Expenditure	% Share of Current Expenditure	% Share of Development Expenditure	% Share of Current Expenditure	% Share of Development Expenditure	% Share of Current Expenditure	% Share of Development Expenditure
2009-10	68.6	31.4	68.6	31.4	68.6	31.4	68.6	31.4	68.6	31.4
2010-11	74.7	25.3	75.0	25.0	77.3	22.7	78.3	21.7	79.8	20.2
2011-12	71.9	28.1	74.2	25.8	75.8	24.2	76.6	23.4	77.7	22.3
2012-13	71.9	28.1	73.7	26.3	75.0	25.0	75.5	24.5	76.4	23.6
2013-14	71.6	28.4	73.0	27.0	74.0	26.0	74.4	25.6	75.1	24.9
2014-15	70.8	29.2	72.2	27.8	73.1	26.9	73.4	26.6	74.0	26.0

7.2 Scenario ii: MTDF priorities and size

We now model the consequences of implementation of MTDF priorities in terms of the allocation of the ADP to different functions. Initially, we undertake sensitivity analysis of the impact on levels of current and development expenditure of changing ADP priorities in line with the MTDF keeping revenue receipts at the level projected in the baseline scenario. Next we derive implications of not only ensuring MTDF sectoral priorities but also of achieving the overall size of the MTDF as projected for 2010-11 to 2012-13.

7.3 MTDF priorities and baseline resources

Analysis of the ADP allocations to different functions in the MTDF is undertaken in Chapter 6. It appears that over next few years the MTDF will imply different shares of the ten provincial functions than those projected on the basis of historical trends in Chapter. Accordingly, the equations for projecting functional shares in the ADP upto 2014-15 which are consistent with the MTDF are given in Box 7.1.

These equations reveal that upto 2014-15 the shares in ADP of the functions of General Public Services and Economic Affairs will decline while that of Housing and Community Development, Health and Education will increase. Therefore, as highlighted earlier, the strategy embodied in the MTDF is gradual shift in priority away from economic infrastructure towards the social services.

We have highlighted also that the downstream liabilities in terms of recurring expenditure of development expenditure on social sectors are substantially larger. As such, implementation of the MTDF is likely to increase the share in the provincial budget of recurring expenditure in relation to the baseline scenario.

Table 7.5 indicates that by 2014-15 recurring expenditure will be almost Rs 18 billion higher than projected in the baseline scenario. This represents an increase of almost 3 percent. **The corresponding reduction in the size of ADP will imply a reduction in development expenditure of almost 6 percent.** In fact, the share of development expenditure in the provincial budget is expected to decline from 31.3 percent in 2009-10 to 30.5 percent by 2014-15 (see Table 7.6).

Table 7.5: DIFFERENCE* IN EXPENDITURE DUE TO IMPLEMENTATION OF MTDF PERIORITIES (with same Revenue Receipts as in the Baseline Scenario) (at current prices)						
	Current Expenditures			Development Expenditures		
	Baseline Scenario	Scenario* With	Difference	Baseline Scenario	Scenario* With	Difference
	MTDF Priorities			MTDF Priorities		
2009-10	318.2	318.2	0.0	145.6	145.6	0.0
2010-11	379.2	379.2	0.0	163.4	163.4	0.0
2011-12	444.6	448.5	3.9 (0.9) ^c	196.0	191.8	-4.2 (-2.1)
2012-13	509.9	517.9	8.0 (1.6)	230.8	222.3	-8.5 (-3.7)
2013-14	573.4	587.1	13.7 (2.4)	268.3	255.1	-13.2 (-4.9)
2014-15	657.6	675.2	17.6 (2.7)	314.4	295.8	-18.6 (-5.9)
^a with respect to base line scenario ^b it is assumed that the share in ADP allocations in 2010-11 are consistent with the MTDF ^c figures in brackets are percentage differences						

Table 7.6: MIX OF CURRENT AND DEVELOPMENT EXPENDITURES IN SCENARIO II (Baseline Resources and MTDF Priorities)			
	Total Expenditure (Rs. in Billion)	% Share of	
		Current Expenditure	Development Expenditure
2009-10	463.8	68.7	31.3
2010-11	542.6	69.9	30.1
2011-12	640.6	70.0	30.0
2012-13	740.7	69.9	30.1
2013-14	841.7	69.8	30.2
2014-15	972.0	69.5	30.5

**Box 7.1: EQUATIONS FOR PROJECTING SHARES OF DIFFERENT FUNCTIONS UPTO 2014-15^A
WHICH ARE CONSISTENT WITH THE MTDF**

01 General Public Services:

$$S_{01} = 9.4 - 0.4t$$

02 Defence Affairs:

$$S_{02} = 0.0$$

03 Public Order and Safety Affairs:

$$S_{03} = 1.1$$

04 Economic Affairs:

$$S_{04} = 50.9 - 0.4t$$

05 Environment Protection:

$$S_{05} = 0.2$$

06 Housing and Community Development:

$$S_{06} = 16.1 + 0.3t$$

07 Health

$$S_{07} = 7.9 + 0.3t$$

08 Recreation, Culture, etc.:

$$S_{08} = 0.4$$

09 Education:

$$S_{09} = 13.5 + 0.2t$$

10 Social Protection:

$$S_{10} = 0.5$$

Where S is the sectoral share in the ADP. t is a time variable which takes a value of 1 in 2011-12, 2 in 2012-13 and so on.

^aThe MTDF has been prepared for three years upto 2012-13. Beyond this projection of shares is made on the basis of change from 2010-11 to 2012-13.

7.4 MTDF size and priorities

The MTDF size, after adjusting for inflation, is given in Table 7.7. The size of the ADP in 2010-11 will fall short of the size in the MTDF by Rs 19 billion, or 11.4 percent. Clearly, the availability of resources is not adequate to finance the size of ADP in the MTDF, as highlighted in Chapter 6.

Table 7.7: COMPARISON OF SCENARIO WITH MTDf SIZE AND PRIORITIES WITH THE BASELINE SCENARIO (with same revenue receipts as in the Baseline Scenario) (at current prices) (Rs in Billion)									
	Current Expenditures			Development Expenditures			Net Capital Receipts		
	Baseline Scenario	MTDF ^a Scenario	Difference	Baseline Scenario	MTDF ^a Scenario	Difference	Baseline Scenario	MTDF ^a Scenario	Difference
2009-10	318.2	318.2	0.0	145.6	145.6	0.0	40.4	40.4	0.0
2010-11	379.2	379.2	0.0 (0.0)	163.4	182.0	18.6 (11.4)	19.5	38.1	18.6 (95.4)
2011-12	444.6	451.9	7.3 (1.6)	196.0	213.5	17.5 (8.9)	22.8	47.6	24.8 (108.8)
2012-13	509.9	524.8	14.9 (2.9)	230.8	249.5	18.7 (8.1)	30.4	64.0	33.6 (110.5)
2013-14	573.4	602.1	28.7 (5.0)	268.3	285.7	17.4 (6.5)	35.1	76.3	41.2 (117.4)
2014-15	657.6	691.1	33.5 (5.1)	314.4	320.5	6.1 (1.9)	40.4	79.9	39.5 (97.8)
^a after adjusting for inflation to yield estimate at current prices.									

It appears that for the full MTDf to be financed net capital receipts would have to be over double the level projected in the baseline scenario, higher by as much as Rs 40 billion in 2014-15. This level of borrowing, especially if it is from capital market, is likely to impose a substantial debt servicing burden and potentially cut into current expenditure and adversely affect the provision of services by reducing outlays for O&M. Therefore, the scenario is considered as infeasible due to the lack of adequate resources. Of course, some of the gap could be filled by more aggressive mobilization of resources from own revenue sources. The mix of current and development expenditure is given in Table 7.8

Table 7.8: MIX OF CURRENT AND DEVELOPMENT EXPENDITURES IN SCENARIO WITH MTDF SIZE AND PRIORITIES (Baseline Revenues and MTDF Size and Priorities)			
	Total Expenditure (Rs. in Billion)	% Share of	
		Current Expenditure	Development Expenditure
2009-10	463.8	68.7	31.3
2010-11	561.2	67.6	32.4
2011-12	665.4	67.9	32.1
2012-13	774.3	67.8	32.2
2013-14	887.8	67.8	32.2
2014-15	1011.6	68.3	31.7

Beyond the above sensitivity analyses, the Model of Provincial Finances developed for this study is versatile and can be used for various purposes as follows:

- (i) Deriving the implications of adhering to pre-specified norms and standards of O&M on different functions,
- (ii) Shifting development priorities faster towards social sectors then envisaged in the MTDF,
- (iii) Allowing for diversion of funds towards flood reconstruction from 2010-11 to 2012-13

and so on. Different simulations of the Model of Provincial Finances can be undertaken on request by the Government of Punjab.

Section 8: Optimal mix of development and current expenditure

8. Optimal mix of development and current expenditure

The sensitivity analyses undertaken in the previous Chapter have yielded the following conclusions:

- a) In the baseline scenario which is based on projection of historical trends the balance of expenditure gradually shifts in favour of development expenditure with an increase in share in the provincial budget from 31.4 percent in 2009-10 to 32.3 percent by 2014-15.
- b) If the shares in the ADP of different functions are made consistent with the MTDF then current expenditure rises more rapidly because, first, the MTDF envisages an increase in the share of social services in the ADP and a corresponding decline in the share of economic infrastructure and, second, the downstream O&M expenditure liabilities of social services are substantially larger. Consequently, in contrast to the baseline scenario, there is likely to be decline in the share of development expenditure in the budget from 31.4 percent in 2009-10 to 30.5 percent in 2014-15.
- c) Achieving the full size of the ADP projected upto 2012-13 in the MTDF is not feasible due to lack of availability of resources. It will necessitate an unsustainably high level of borrowings.

The scenario which is likely to represent the optimal mix of development and expenditure is one which is based on, first, a realistic projection of resources (as in the baseline scenario, based on the resource outlook presented in Chapter 4), second, reflects the development vision of the Government of Punjab by incorporating the MTDF sectoral priorities and, third, ensures that the full O&M costs of completed development schemes are provided for in order to achieve the maximum efficiency in the provision of services.

The implied current and development expenditure allocations in this optimal scenario have been presented in the previous chapter in Table 7.2. Current expenditures as percentage of the total provincial budget initially increase from 68.7 percent in 2009-10 to 69.9 and thereafter shows minor decline. The share of development expenditures accordingly is mentioned at about 30-30½ percent over the five year period. The optimal current and development expenditures by function are given in Tables 8.1 and Table 8.2 respectively. The major components of current expenditure are on general public services, public order and safety affairs, economic affairs, health and education. The shares of the general public services and economic affairs are expected to decline in relation to the shares in 2010-11 while the shares in current expenditure of public order and safety affairs, health and education are expected to increase.

Table 8.1: OPTIMAL MIX OF CURRENT EXPENDITURE BY FUNCTION (Based on Revenue Receipts in the Baseline Scenario and MTDF Priorities) (Rs. in Million)						
Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Recurring Expenditure						
General Public Service						
Rs. in Million	170,743	215,487	236,594	262,349	288,250	317,931
percent of total current expenditure	53.7	56.8	52.7	50.7	48.8	47.1

Defence Services						
Rs. in Million	0	0	0	0	0	0
percent of total current expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Public Order and Safety Affairs						
Rs. in Million	59,516	64,428	77,284	89,994	104,162	121,103
percent of total current expenditure	18.7	17.0	17.2	17.4	17.6	17.9
Economic Affairs						
Rs. in Million	39,673	43,342	45,927	48,388	50,912	54,228
percent of total current expenditure	12.5	11.4	10.2	9.3	8.6	8.0
Environment Protection						
Rs. in Million	43	50	55	59	63	67
percent of total current expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Housing and Community Amenities						
Rs. in Million	1,642	2,162	2,232	2,490	2,752	3,054
percent of total current expenditure	0.5	0.6	0.5	0.5	0.5	0.5
Health						
Rs. in Million	22,253	23,100	40,166	50,571	60,908	72,083
percent of total current expenditure	7.0	6.1	9.0	9.8	10.3	10.7
Recreational, Culture and Religion						
Rs. in Million	1,072	805	882	948	1,005	1,065
percent of total current expenditure	0.3	0.2	0.2	0.2	0.2	0.2
Education Services						
Rs. in Million	21,503	28,499	43,943	61,506	81,118	103,902
percent of total current expenditure	6.8	7.5	9.8	11.9	13.7	15.4
Social Protection						
Rs. in Million	1,797	1,345	1,473	1,584	1,679	1,779
percent of total current expenditure	0.6	0.4	0.3	0.3	0.3	0.3
Total	318,243	379,219	448,555	517,889	590,849	675,210

Growth Rate(percent)		19.2	18.3	15.5	14.1	14.3
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Table 8.2: OPTIMAL MIX OF DEVELOPMENT EXPENDITURE BY FUNCTION (Based on Revenue Receipts in the Baseline Scenario And MTDf Priorities) (Rs. in Million)						
Year	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Development Expenditure						
General Public Service						
Rs. in Million	33,189	15,361	17,263	19,119	20,914	23,070
percent of total development expenditure	22.8	9.4	9.0	8.6	8.2	7.8
Defence Affairs and Services						
Rs. in Million	0	0	0	0	0	0
percent of total development expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Public Order and Safety Affairs						
Rs. in Million	2,374	1,798	2,110	2,445	2,806	3,253
percent of total development expenditure	1.6	1.1	1.1	1.1	1.1	1.1
Economic Affairs						
Rs. in Million	67,850	83,181	96,865	111,377	126,760	145,813
percent of total development expenditure	46.6	50.9	50.5	50.1	49.7	49.3
Environment Protection						
Rs. in Million	423	327	284	445	510	592
percent of total development expenditure	0.3	0.2	0.2	0.2	0.2	0.2
Housing and Community Amenities						
Rs. in Million	26,344	26,311	31,457	37,126	43,359	51,168
percent of total development expenditure	18.1	16.1	16.4	16.7	17.0	17.3
Health						
Rs. in Million	5,978	12,910	15,729	18,896	22,444	26,915
percent of total development expenditure	4.1	7.9	8.2	8.5	8.8	9.1
Recreational, Culture and Religion						
Rs. in Million	409	654	767	889	1,020	1,183
percent of total development expenditure	0.3	0.4	0.4	0.4	0.4	0.4
Education Affairs and Services						

Rs. in Million	6,945	22,062	26,278	30,901	35,962	42,295
percent of total development expenditure	4.8	13.5	13.7	13.9	14.1	14.3
Social Protection						
Rs. in Million	2,072	817	959	1,112	1,275	1479
percent of total development expenditure	1.4	0.5	0.5	0.5	0.5	0.5
Total	145,585	163,420	191,812	222,309	255,050	295,767
Growth Rate(%)		12.3	17.4	15.9	14.7	16.0

Within the ADP, relatively large allocations are made to general public services, economic affairs, housing and community amenities, health and education. As highlighted earlier, the share of social services will increase in the optimal scenario consistent with MTFD priorities while that of economic affairs will fall from the share allocated 2010-11.

Section 9: Allocative efficiency of expenditure: The case of education and health

9. Allocative efficiency of expenditure: The case of education and health

Our analysis in Chapter 6 highlights that in the next five years budgetary framework, enough resources may not be available with the provincial government, in the absence of an extraordinary fiscal effort or high level of borrowings to finance the full size of the MTDF. To achieve its development goals, the government will, therefore, have to make expenditures more cost effective and efficient – that is achieve more output with given inputs. Therefore, in this chapter we attempt to address the question: what should be the mix of inputs into health and education sectors which ensure maximum output, given available resources?

9.1 Education

An analysis of the trends in the education sector of the Province is undertaken in Table 9.1. Enrolments, both of boys and girls, in government schools expanded rapidly during the decade of the 80s, which was the consequence especially of a big increase in the number of teachers. This was followed by a period of slow growth upto 2003-04 when emerging resource constraints limited the rate of construction of new schools and expansion in the number of teachers. In fact, there is evidence that the number of teachers both in boys and girls schools actually declined from 1997-98 to 2003-04. Thereafter, some recovery is observed in the education sector and total enrolments of boys and girls increased annually by 2.6 and 3.2 percent respectively. This is faster than the growth of school-going age population, implying that enrolment rates have increased.

Table 9.1: TREND IN ENROLMENT, SCHOOLS AND TEACHERS

	Annual Growth Rate(%)		
	Enrolment ¹	Schools ²	Teachers
BOYS			
1981-82 to 1990-91	6.54	2.00	6.89
1990-91 to 1996-97 ^a	1.81	2.44	3.78
1997-98 to 2003-04 ^b	1.54	0.00	-1.66
2004-05 to 2007-08	2.64	0.75	0.25
GIRLS			
1981-82 to 1990-91	7.63	7.19	7.80
1990-91 to 1996-97 ^a	2.30	1.43	3.81
1997-98 to 2003-04 ^b	2.05	0.42	-0.52
2004-05 to 2007-08	3.19	0.23	1.00

¹Combined enrolment in government primary, middle and high schools

²Combined into an equivalent number of school rooms with primary school = 5, middle school = 8, high school = 10

^ain 1997-98 there was a sharp drop in reported enrolment due to change in coverage with data being provided through the EMIS only for schools managed by the Punjab Education Department.

^bin 2004-05 there is a significant jump in enrolment, especially for boys.

Different theoretical approaches can be adopted for analysing issues of allocative efficiency in education. One approach is to view that the provincial governments as engaging in a cost minimization behaviour, given knowledge of production function of enrolments with respect to inputs like schools, teachers etc. However, this approach assumes rational behaviour with full knowledge of the production function, and no resource constraints such that targets can be fully met. These assumptions are generally not satisfied in practice. A more realistic view of how provincial governments behave is that they generally operate in an overall resource constrained framework, both for recurring and development expenditures, and that given the overall quantum of resources available in the recurring budget and the ADP, funds are allocated to different levels of education on the basis of intra-sectoral priorities. According to this view then the actual choice of level of inputs need not correspond to the cost minimizing combination. As such some inputs are likely to be overused while other remain at sub-optimal levels. For example, if development allocations for education are high, especially in recent years then too many schools may be built relative to teachers whose numbers may be constrained by lack of revenues to finance recurring expenditures.

We set up the theoretical framework which is consistent with the latter view. Accordingly the number of teachers, T and the number of schools, N is given exogenously by the size of current recurring and development expenditure (past and present) allocations.

The production function of enrolments⁸ is given by

$$\left[\frac{E}{P}\right] = f \left[\frac{N}{P}, \frac{T}{N}\right] \quad \dots\dots\dots(1)$$

Where E = Enrolment, N = Number of schools⁹, P = school-going age population, T = number of teachers,

Therefore, according to (1) the level of enrolment in relation to the school-going age population depends upon the coverage of the network of schools measured by $\left[\frac{N}{P}\right]$, that is, the number of schools in relation to the school-age population and on the availability of teachers measured as $\left[\frac{T}{N}\right]$, that is, the ratio of teachers to the number of school rooms.

Equation (1) is specified explicitly as

$$\left[\frac{E}{P}\right] = A \left[\frac{N}{P}\right]^\alpha \left[\frac{T}{N}\right]^\beta \quad \dots\dots\dots(2)$$

Where A is a positive constant, and $\alpha > 0, \beta > 0$

Equation (2) implies that the growth rate, g_e , is given by

⁸ Combined enrolments at the primary, middle and matric levels have been taken because data on government enrolments is available only by type of school -- primary, middle and high --- and not by level of education. Middle schools include both primary and middle level enrolments and high schools include all three levels of education.

⁹ This variable has been converted into number of school rooms with one primary school = 5, one middle school = 8, one high school = 10.

$$g_e = (\alpha - \beta)g_N + \beta(g_T) + (1 - \alpha)g_P \quad \dots\dots\dots(3)$$

Where g_N = growth rate in the number of schools, g_T = growth rate in the number of teachers, g_P = growth rate in school going-age population.

According to (3) enrolments can increase even if the number of schools and teachers remains the same, due to rise in the school going-age population. Of course, this will imply increasing congestion in the schools and decline in quality due to the fall in the teacher-to-student ratio. Also, A can change in magnitude over time due to the emergence of a larger network of private schools.

The fundamental issue, as highlighted earlier, with regard to allocative efficiency is the choice between teachers and schools. This requires the derivation of the marginal productivity of each input from the production function in (2), so that a comparison can be made between the ratio of marginal productivities with the ratio of marginal costs.

The marginal productivity of school (rooms) and teachers in terms of the impact on the level of enrolments is derived from (2) as follows:

$$\frac{\partial E}{\partial N} = \frac{(\alpha - \beta)E}{N} \quad \dots\dots\dots(4)$$

$$\frac{\partial E}{\partial T} = \frac{\beta E}{T} \quad \dots\dots\dots(5)$$

The OLS regression technique is used to measure the parameters of the production function on the data from 1981-82 to 2007-08, with suitable adjustments for changes in coverage by the education data base of the Government of Punjab.

Results of the regressions are presented in Table 9.2 below.

Tests were applied to determine if A has changed over time to reflect greater competition from the private sector. However, the results were inconclusive.

The resulting estimates of elasticities are given

Table 9.2: RESULTS OF REGRESSION ANALYSIS OF THE PRODUCTION FUNCTION OF EDUCATION, 1981-82 TO 2007-08				
	ln (E/P) is the dependent variable			
	BOYS		GIRLS	
Variable	Coefficient	t-ratio	Coefficient	t-ratio
Constant	-2.903	-19.880*	-3.592	-18.307*
ln(N/P)	0.816	19.866*	0.971	18.153*
ln(T/N)	0.751	17.116*	0.680	11.588*
D ₁	-0.096	-3.214*	-0.084	-2.554**
D ₂	0.158	7.811*	0.300	14.111*
R ²	0.954		0.960	
D-W	1.679		1.702	
F	136.907*		158.470*	
D ₁ is a dummy variable with a value of 1 in 1997-98 and zero otherwise; it captures the change in coverage in 1997-98				
D ₂ is a dummy variable with a value of 1 from 2004-05 onwards and zero otherwise				
*Significance at the 1% level				
**Significance at the 5% level				

below:

ELASTICITIES		
	Boys	Girls
Schools	0.065	0.291
Teachers	0.751	0.680

The elasticities indicate the following:

- i. In the case of boys, a 1 percent increase in the number of schools leads to a 0.065 percent increase in enrolment while a 1 percent increase in the number of teachers yields an increase of 0.751 percent in enrolment.
- ii. In the case of girls, a 1 percent increase in the number of schools leads to a 0.291 percent increase in enrolment while a 1 percent increase in the number of teachers yields an increase of 0.680 percent in enrolment.

The elasticities give the first indication that in the case of boys expansion in the number of schools is not likely to be as efficient as devoting the same resources to increasing the number of teachers. In the case of girls, marginal productivity of both inputs appears to be relatively high.

We estimate next the marginal productivity of each input for boys and girls respectively:

Boys

Marginal Productivity of Schools = 2.25

Marginal Productivity of Teachers = 27.54

Therefore, one additional school class room adds 2.25 students while the presence of an additional teacher adds 27.54 students.

Girls

Marginal Productivity of Schools = 8.37

Marginal Productivity of Teachers = 24.80 students

Therefore, one additional school class room adds 8.37 female students while the presence of an additional teacher adds 24.80 students.

We are finally in a position to derive the marginal cost per enrolment with different inputs for boys and girls respectively:

	Marginal Cost of increasing enrolment by one student (Rs)
Boys	
with addition to classrooms*	25777
with addition to teachers**	12905

Girls	
with addition to classrooms*	6929
with addition to teachers**	14331
*based on unit costs of construction of school, amortized to arrive at the annual cost	
**based on the average basic salary + allowances of a teacher.	

Based on the marginal cost of increase in enrolment we have that for maximization of allocative efficiency the priorities for expansion in the education sector of the Government of Punjab should be as follows:

FIRST PRIORITY: CONSTRUCT MORE GIRLS SCHOOLS

SECOND PRIORITY: INCREASE TEACHERS IN BOYS SCHOOLS

THIRD PRIORITY: INCREASE TEACHERS IN GIRLS SCHOOLS

FOURTH PRIORITY: CONSTRUCT MORE BOYS SCHOOLS

Given the complementarity of inputs, the cost effective strategy is as follows:

1. Construct more girls' schools with the normal complement of teachers per school
2. Provide existing boys' schools with more teachers.

The Government of Punjab may contemplate a moratorium temporarily on the construction of new schools or up gradation of existing boys schools except in backward areas which are underserved.

9.2 Health

There are a number of serious allocative efficiency issues which arise in the context of provision of curative health issues. These relate first to the location of health facilities in rural and urban areas respectively, that is, the choice between construction of basic health units, rural health centers and tehsil or district-level hospitals and, second, whether more resources should be devoted to the expansion of health facilities or to the provision of more medical personnel, especially doctors, and larger supplies of medicines and other material inputs.

Before the setting up of a framework for analysis of allocative efficiency issues, we describe first the trends in the health system of the Government of Punjab. The decade of the 80s witnessed a rapid expansion in public curative health services and the number of out-patients increased annually by over 8.5 percent, due largely to fast growth in the number of beds and doctors. The process of expansion slowed down in the decade of the 90s and there was a shift in emphasis towards provision of rural health services. From 2003-04 onwards there has been an extraordinarily rapid increase in the number of out-patients of as much as almost 14 percent per annum. This is the first indication that the technical efficiency of the health system has improved in recent years.

The production function of out patients is stated as follows:

$$\frac{TP}{POP} = f \left[\frac{TB}{POP}, \frac{DOC}{TB}, \frac{RTB}{TB} \right] \dots\dots\dots(6)$$

Where TP = number of out-patients, POP = total population, TB = number of beds, RTB = number of rural beds, DOC = number of doctors.

Table 9.3: TRENDS IN THE HEALTH SYSTEM OF THE GOVERNMENT OF PUNJAB				
	Annual Growth Rate(%)			
	Number of Outpatients Treated	Number of Beds	Share of Beds in Rural Areas*	Number of Doctors
1980-81 to 1990-91	8.55	4.44	8.39 ^a	10.65
1990-91 to 2002-03**	1.06	2.03	17.64 ^b	5.02
2003-04 to 2007-08	13.84	2.90	21.4 ^c	4.91
*beds in basic health units and rural health centres **there was jump of 36% in the number of out patients treated in 2003-04 possibly due to an improvement in the reporting system ^a in 1980-81 ^b in 1990-91 ^c in 2003-04				

The extent of access to public curative health services is measured by $\left[\frac{TB}{POP} \right]$ which indicates the number of beds available to the population. Quality of medical care depends upon $\left[\frac{DOC}{TB} \right]$, the ratio of doctors to beds. Implications on efficiency of the presence of rural health services is measured by $\left[\frac{RTB}{TB} \right]$, that is, the share of beds in BHUs and RHCs in the total number of beds.

Explicitly, the production function can be specified as follows:

$$\frac{TP}{POP} = A \left[\frac{TB}{POP} \right]^{\alpha} \left[\frac{DOC}{TB} \right]^{\beta} \left[\frac{RTB}{TB} \right]^{\gamma} \dots\dots\dots(7)$$

Where A is a positive constant. $\alpha > 0$, $\beta > 0$. γ can be either positive or negative depending upon whether the rural health delivery system is more or less efficient.

The expressions for marginal productivity of the inputs are as follows:

$$\frac{\partial TP}{\partial UTB} = \frac{(\alpha - \beta - \gamma)UTB}{(RTB + UTB)} \dots\dots\dots(8)$$

Where UTB = number of urban beds in tehsil and district-level hospitals

$$\frac{\partial TP}{\partial RTB} = \frac{(\alpha - \beta - \gamma)UTB}{(RTB + UTB)} + \gamma \dots\dots\dots(9)$$

$$\frac{\partial TP}{\partial DOC} = \frac{\beta TP}{DOC} \dots\dots\dots(10)$$

The OLS regression technique is used to measure the parameters, of the production function on the data from 1981-82 to 2007-08. Results of the regression analysis are presented in Table 9.4.

Table 9.4: RESULTS OF THE REGRESSIONS ANALYSIS OF THE PRODUCTION FUNCTION OF HEALTH, 1981-82 TO 2007-08		
	ln (TP/POP) is the dependent variable	
	Coefficient	t-ratio
Variable	15.172	3.430**
Constant	4.250	8.928*
ln(TB/POP)	1.257	8.554*
ln(DOC/TB)	-0.930	-10.479*
ln(RTB/TB)	-0.758	-1.833
ln(PCY)***	0.521	7.411**
D1		
$\bar{R}^2=0.965$, D-W =1.792 , F =186.856		
D1 = 1 from 2003-04 onwards to reflect the big jump of almost 36% in 2003-04		
*Significant at the 1 % level		
**Significant at the 10% level		
***Per Capita Income (at constant prices of 1999-2000) is used to capture change in A		

The magnitude of the derived elasticities of number of out-patients with respect to the inputs is given below:

	ELASTICITY
Doctors	1.257
Urban Beds	3.993
Rural Beds	0.110

The very low elasticity of rural beds is due to the negative coefficient of the variable measuring the share of rural beds in total beds in the estimated production function. It may also be noted that the sign of the per capita income variable is negative, implying that as household incomes rise in the province, demand is likely to shift increasingly to private medical services.

The magnitude of the elasticities enable the following conclusions:

- a. A 1 percent increase in the number of doctors in government health facilities leads to a 1.257 percent increase in demand, as measured by the number of out-patients.
- b. A 1 percent increase in the number of urban beds, in tehsil and district-level hospitals, leads to a very big increase of 3.993 percent in the number of out-patients.
- c. A 1 percent increase in the number of rural beds, in BHUs and RHCs leads to only a minor increase of 0.11 percent in the number of out-patients. In fact, this low efficiency ratio highlights the need for an in-depth field investigation of RHUs and BHUs to identify factors hindering performance.

Given the large differences in elasticities, the implications for allocative efficiency of health sector budgets of the Government of Punjab are clearly as follows:

FIRST PRIORITY: EXPANSION IN CAPACITY AND NUMBER OF TEHSIL AND DISTRICT-LEVEL HOSPITALS

SECOND PRIORITY: INCREASE IN THE NUMBER OF DOCTORS IN EXISTING FACILITIES

As opposed to the earlier policy of setting up of more BHUs and RHCs there is need now to study the efficiency of these health outlets before any plans for expansion are implemented.

Section 10: Improvements in budget making process

10. Improvements in budget making process

Budget making process for provinces is laid down in Articles 118 to 124 of Constitution of Islamic Republic of Pakistan, 1973. The Constitution provides distinction between development and non-development (also called current budget) parts of the budget. Budget making for both components is slightly different; therefore, they have been discussed in separate sections of this chapter along with suggested improvements to the processes.

10.1 Non-development budget

The process for preparation of non-development / current budget kicks off with the issuance of a Budget Call Circular in the month of October. The circular provides guidance to field offices on budget making along with the target dates (Budget Calendar) for different steps. The circular also contains different forms and formats for provision of information to the heads of respective departments. The forms have been provided to standardize the information provided by different offices. The departmental information on estimates of non-development budget for the next financial year is consolidated by the respective department heads and is communicated to Finance Department by the month of January. These proposals are examined in Finance Department during the month of February. Simultaneously the estimates of receipts are prepared in consultation with the Federal Government and important tax / non-tax collection departments. It may be worth mentioning that more than 80 percent of the total resource of the provincial government comes from federal transfers, which are largely governed by National Finance Commission Award. Month of April is the deadline for provision of revised estimates for the ongoing financial year to Finance Department. The departments are, therefore, required to provide second statements of excesses and surrenders, which form the basis for preparation of the revised estimates. Revised estimates for current financial year and budget estimates for the next financial year are finalized by Finance Department in the month of May. This is followed by presentation of budget before the provincial assembly during the month of June. In this way the budget making process starts in the month of October and concludes in the month of June after approval by the Provincial Assembly in accordance with the constitutional provisions mentioned above.

While talking about the non-development / current budget, it may be worthwhile mentioning that the current budget consists of two types of expenditure. The first one is called the permanent budget whereas the second is commonly referred to as new expenditure. The permanent budget and Schedule of New Expenditures (SNE) are submitted separately by Administrative Department to Finance Department for scrutiny before inclusion in budget estimates. The schedule of new expenditure mainly relates to development schemes which have been completed and, therefore, their running expenditures are meant to be shifted from development budget to non-development. At present the process of estimating recurrent implications of development has some weaknesses due to which the SNEs do not provide the real estimate of this liability. Estimates of recurrent implication provided in the PC-1 of the project are at best incomplete, if provided. In most cases, though, such estimates are not made part of the planning documents. Posts resulting from development schemes are included and cleared by the competent authority but other components of the recurrent liability (operating expenses) are not estimated at the planning stage. Further, no system is in place to systematically record the liability arising out of development schemes. Consequently, there is no way for Finance Department to accurately assess the current expenditure. In this way, the discrepancy in estimating recurrent liability raises the risk element of Government's financial management. This risk usually manifests itself in the

form of supplementary grants which is required to be released when a recurrent liability of development schemes is discovered during the course of a year. The need for a supplementary grant, especially at a time of financial crunch, causes delay in operationalization of new facilities.

These days a number of district governments such as Lahore, Sialkot and Toba Tek Singh have started to bear the brunt of the recurrent liabilities of development in education and health sector. Government has been undertaking massive up-gradation of educational institutions managed by the district governments, which naturally results in increased cost of establishment. These posts are sanctioned by the Finance Department after receiving a certificate from the district government that necessary resources are available with it to finance these positions. These certificates are issued by district governments without objectively assessing the availability of fiscal space for these new positions due to political pressure. Resultantly, the districts where a large number of such upgradations have taken place are finding hard to run their day to day affairs.

In order to resolve the issue it is proposed that the section on recurrent liabilities available in the PC-1 may be filled as accurately and comprehensively as possible and an estimate of recurrent liability arising out of a development project for at least 3 subsequent years may be included in the PC-1. A database of such liabilities may be maintained at the Finance Department and after approval of every PC-1; a copy may be endorsed to the office maintaining the database. This database can be used to estimate annual liability of development of new public facilities.

Annual budget making being incremental in nature suffers from inherent weaknesses which limit its usefulness in spending resources to their optimal use. Failure to link policy, planning and budgeting is the single most important cause for poor budgetary outcomes especially in developing countries⁸. Government is, therefore, currently in the process of building capacity of its departments to prepare budget on Medium Term Budgetary Framework (MTBF). At least seven departments are now preparing their budgets for 2011-12 MTBF. This provides an important opportunity to Government to shift from present incremental budgeting to output budgeting. If implemented properly this initiative can enable Government estimate the performance of its department on the basis of success in achieving the desired outputs.

The current / non-development budget is released to departments immediately after approval of the budget. A large fraction of this budget comprises "Employee Related Expenditure" i.e. salary, allowance and TA/DA of the employees. The other important categories of the non-development expenditure include Transfer to Local Government, Interest Payments, Subsidies and operational expenditure. The operational budget refers to budget for utilities and M&R of infrastructure etc. Operational expenditure forms a relatively smaller part of the budget.

At present, non-development budget process does not provide any mechanism to have gender perspective although a number of initiatives on the non-development side of the budget also target women in the province. However, due to absence of any such institutionalized mechanism, it is extremely hard to find out existing relationship between non-development spending and gender mainstreaming.

10.2 Development expenditure

The development expenditure has been defined in the Punjab Budget Manual 2008 as the expenditure having the following characteristics:-

⁸ White Paper on Budget 2010-11, Government of the Punjab (page 91)

- 1 It is designed to keep intact, enlarge and improve the physical resources of the country;
- 2 It improves the knowledge, skill, and productivity of the people; and
- 3 It encourages efficiency with which available resources are used.

The only exception to the above is the investment in human resources by the Departments of Health and Education, which despite having the above features, is categorized as non-development expenditure. This exception is, however, made because expenditure by these two departments is of permanent nature and should, therefore, be met from permanent resources rather than from loan or aid. In this way the source of funding also plays some part in determining the type of expenditure.

Following the above mentioned principles the expenditure in important sectors such as Irrigation, Power, Communication and Transport etc. on replacement or expansion of existing capacity, or for creation of new physical capacity is treated as development expenditure. In respect of civil works, investment in building and roads are categorized as development expenditure. Similarly, the non-recurring expenditure on housing and settlement projects and ancillary services such as water supply, sewerage, electrification etc. is also part of the development expenditure.

10.3 Annual development plan (ADP)

Development expenditure is provided for according to plans each of which is intended to cover a period of one year in case of short term, and about 3-6 years in case of medium term plans. Annual Development Program, for a financial year is the statement showing the details of total development expenditure proposed for various development schemes in different sectors / sub-sector for a year.

10.4 Development planning process

Development budget involves three main parts: the identification of schemes, the approval and budgeting of schemes and the execution of schemes. These parts have been explained in the following paragraphs:

10.4.1 Identification of schemes

Government departments are responsible for identification of development schemes. In this quest, the departments are guided by Government's vision, communicated through policy documents such as Poverty Reduction Strategy Paper (PRSP) or Vision 2020. Ideally, a Government at the start of its tenure in office should come up with its development priorities which should preferably be integrated with national development strategy. The policy document also provides sectoral outcomes for implementation of the development vision. These outcomes in turn provide direction and targets to individual departments to form their respective development programs. In order to have a predictable, well defined and clear planning process, the Departments need to come up with medium and long term sector plans, clearly setting targets for each year. The annual development plan should, therefore, flow from such sectoral / departmental plans of all departments keeping in view the availability of resources.

Being need based is the other important characteristic of a good development program. In the developed countries the research by academia and professional bodies provides justification for various development initiatives. In developing countries this 'luxury' is seldom available. Therefore, the development process is ad-hoc in nature. In Punjab, a Multiple Indicator Cluster Survey (MICS) was conducted in 2007 with the assistance of

international development partners to identify need for development initiatives in various districts of the province.

The Budget Manual, despite being a very elaborate document, does not provide specific steps which need to be taken by the Provincial Government for identification of schemes. One, however, feels that the Department Heads must consult surveys such as MICS and hold consultations with public representatives, academia and other stakeholders to identify development schemes for their sectors. Public representatives need to be given special importance in this process as they have the knowledge of local needs. Recently need was felt to hold more consultation with elected leadership of the Province for identification of development initiatives. Therefore, Punjab Government initiated the process of holding pre-budget sessions of the Punjab Assembly. Through this session, Government departments seek input of legislators on prospective development schemes. It is, however, worth mentioning that the process of consultation needs to be further institutionalized for effective consultations as presently many MPAs have been complaining that their input in the pre-budget sessions was not given due importance in framing the development program for the province. In addition, there is great need that the legislators are educated to play the role expected of them which entails providing guidance to bureaucracy on setting development priorities, sector ceilings and monitoring effective use of development funds in whole of the province. At present the legislators only seem to be worried about development schemes for their respective constituencies. In this regard, orientation of the members of legislature is definitely required to apprise them of their true role in the development planning process.

10.5 Approval of annual development program

The development budget estimates for the proposed new projects, together with the project documents are submitted to the Planning and Development Board for appraisal. Each scheme or project that is proposed under development allocations is put forth for appraisal using the Federal Planning Commission (PC) forms. The PC-I form contains details about the project scope, location, implementing authority, objectives, cost estimates, and a benefit analysis. At present the Planning Commission has developed 14 different PC-1 forms for different sectors.

The departments must select individual schemes with a view to maximize national economic growth, social development, generation of greater resources and meeting sectoral outcomes determined by Government's vision. However, due to competing demands of different sectors, the decision for inclusion of a development scheme in the ADP hinges on project appraisal which includes technical, social, commercial, financial and economic analysis/appraisal of a project. Project appraisal is important to determine the most beneficial projects due to limited availability of resources for development purpose.

Box 10.1 provides a brief description of steps carried out for formulation of Annual Development Program with target dates:

Box 10.1: ADP CALENDAR	
Early December	Copies of BM-12 form supplied by Finance Department to Administrative Departments for furnishing information relating to development schemes proposed to be included in the ADP
20th December	Administrative Departments return BM-12 form duly filled.
10th January to 15th February	Meetings of competent forums / committees held in P&D Department for consideration of schemes identified by the

Administrative Departments.	
20th February	First draft of ADP prepared by Finance Department and provided to Administrative Departments for scrutiny of schemes included in the first draft
20th February to 10th March	Administrative Departments complete scrutiny of relevant part of development program and submit plan to P&D. Another round of meetings is held to determine the allocations for each scheme
10th March	Ministry of Finance in consultation with Provincial Government determines the size of resource transfers to provinces and resources available for development. On the basis of this information Planning Commission fixes size of ADP for provinces.
End April	Approval of size of ADP by National Economic Council
End May	Submission of ADP to Cabinet for approval
Early June	ADP submitted to Provincial Assembly for approval as part of budget.

The composition and competence of different forums responsible for approval of development schemes for inclusion in Annual Development Program subject to availability of resources is given in Box 10.2. It is important to point out that appraisal and scrutiny of proposed projects require that the forums / authorities examining different schemes have the capacity to examine technical and financial aspects of respective projects. PDWP, despite being the highest forum for approval of development schemes, is sometimes criticized for its ability to effectively appraise schemes, simply because it is very difficult for a single body to review such a large number of schemes. The meetings of this committee are convened at a very short notice which does not allow enough time to members to examine the proposals before attending the meeting. Asymmetry in availability of technical information between line departments and the approving authority (PDWP) is another reason for criticism of the working of PDWP. This asymmetry provides incentives for line departments to over-estimate the costs of projects. In order to curb this tendency, the Government has recently embarked upon the idea of standardizing technical designs of different types of infrastructures. There is still need for the Government to control asymmetry of information between its different agencies to ensure that there are no over-estimation of costs at the planning stage. One option for this is to get the estimates and technical designs prepared by Government departments cross checked by independent experts.

Box 10.2: COMPETENCE OF APPROVING AUTHORITIES

DEVELOPMENT FORUM	APPROVING AUTHORITY
Category-I Officer (Officers specified in Delegation of Financial Powers Rules)	Upto Rs.2 million
Departmental Development Sub-Committee (A Committee comprising the concerned Administrative Department and a representative each of Finance Department and Planning & Development Department not below the rank of a Deputy Secretary)	Rs.2 million - Rs.200 million

Provincial Development Working Party (A Committee comprising members from the Planning and Development Board including Chairman, Members / sector heads in P&D Department and Chief Economist, Finance Department, and the relevant department sponsoring the scheme not below the rank of an Additional Secretary)	Rs.200 million - Rs.5,000 million
Executive Committee of National Economic Council (ECNEC) Finance Minister heads ECNEC. The members include Federal Ministers incharge of economic ministries, the Deputy Chairman Planning Commission, Chief Ministers and Provincial Ministers of concerned departments)	More than Rs.5,000 million

Determination of the size of Annual Development Program is also a contentious issue these days particularly due to the present trend to announce a development budget significantly higher than the last financial year for popular / political reasons even if this means over stretching the financial capacity of the Government. In case of Punjab, this tendency has become more and more visible during the last 5 years. This over-stretching of resources could undermine the whole development process as the payments could get stuck during implementation. It is, therefore, important that the role of P&D and Finance Department is strengthened and insulated from political pressures to determine the sustainable size of development program for respective provinces.

The last step in preparation of ADP is its submission to Provincial Assembly as part of the budget. The Assembly debates the schemes included in the ADP. The members can bring to the attention of the house a certain project proposed to by the government using a cut motion. The cut motion creates occasion for debate in the Assembly regarding a specific allocation and government policy. After the debate the bill upon receiving a simple majority gets approved. Schemes thus approved by the Provincial Assembly form part of the ADP.

10.6 Execution of schemes

After approval of the budget, funds for development schemes are released by Finance Department in respect of approved schemes. Usually these funds are released in quarterly instalments. This allows Finance Department to match its expenditures with the available resources and provides room for it to make necessary adjustments in the development budget during the course of the year in case of any shortfall in the projected receipts. Thus the arrangement provides some flexibility to manage finances of the Government but this practice is termed by many as a reason for slow implementation in the public sector. During the 2009-10, Punjab Government had to adjust the size of its Annual Development Program from Rs.172.0 billion to approximately Rs.135.0 billion, mainly on account of shortfalls in revenue. Such adjustments during the course of financial year create distortions in the overall direction and priorities of the development spending as the adjustment are usually carried out in an ad-hoc fashion.

Another important aspect of development programs is inclusion of un-approved schemes and block allocations in the development plan. These schemes/allocations are released on completion of the approval process. However, due to a number of steps involved in the approval process the execution of these schemes is usually delayed. It may be worthwhile mentioning here that a number of agencies i.e. sponsoring agency, P&D, Finance Department and executing agencies are involved in this process. Implementation process gets delayed if the case for approval / release of funds gets

stuck in anyone of the above mentioned offices. Therefore, there is a clear need to discourage inclusion of unapproved schemes/blocks in the ADP.

The execution of schemes is undertaken by the departments once the budget has been approved by the Provincial Assembly. Officials are empowered to carry out expenditures in accordance with the powers granted to them in the Delegation of Financial Powers. As long as the schemes have been approved and there are resources available, the funds are released to the departments at their request. However in case of shortfalls in revenue, cuts are imposed across the sectors. As noted above, this is likely to create distortions in the development plan. Similar distortion is created by intra-sector and inter-sector re-appropriations. It is extremely important that such re-allocations are minimized at the execution stage as these have the potential to change the complexion and direction of the development program authorized by the legislature.

At the execution stage the Government's ability to monitor quality of execution is the biggest question mark on the development process as the Government implements most of its projects through private contractors. These contractors have an obvious incentive to make use of this inability to their personal gains. It is important that the Government builds this capacity and develops deterrence in the minds of contractors so that they produce the quality of work which matches the price that they charge the Government. It is also important that the Government disciplines its technical staff and creates incentive for them to abstain from collusion with contractors for personal gratification. According to many the efficiency of utilization of public money and poor quality of development works is the biggest problem faced by Government these days. Due to this a large portion of development funds is never used for producing public goods. In order to avoid such colossal loss of public money, the Government needs to streamline its procurement processes, automate release and payment procedures and enhance its monitoring capacity by ensuring availability of information and greater community participation in public sector development works.

The quality of project execution is closely related to input rates for infrastructure projects which form the basis of payments to contractors. Earlier Composite Schedule Rate (CSR) was followed. This system provided input rates, subject to revision annually or bi-annually, based on cost of machinery, equipment and labor. Due to delay in revision of rates, CSR did not reflect the market prices of inputs. Hence, this system was replaced with Market Rate System (MRS) in 2004. Under this system, the input rates are revised every month by Finance Department in consultation with engineering departments of the Government. The switch to MRS was motivated with a view to pay the actual input costs (with reasonable profit) to contractors to get quality output. This system, however, has its own demerits. The biggest and most serious one is the inflationary impact, pushing up input rates manifold since its introduction. Some experts also believe that MRS provides opportunity to contractors to make additional profits if they can observe the direction of change in input costs. Therefore, there is a debate that the Government needs to shift to Engineering Procurement & Consultancy (EPC) or Turnkey mode of contracting to protect its financial interest as this type of contracts protect interest of both the Government and the contractor. Government does not have to face the risk of increase in its estimated cost as in case of MRS and contractors can internalize the risk of inflation in their cost estimates.

During the execution phase there are three project related PC forms that are used to keep track of the implementation status of projects: the PC-III Form to be furnished by the 5th day of each month to the Planning and Development Board, the PC-IV Form, and the PC- V Form. These forms record the allocations, releases, expenditures, outputs indicators, achievements, and issues in implementation of the schemes.

Accounts are maintained by each department in either a manual format or a computerized format as per the accounting practices being followed in the department. After the completion of the budget cycle, post audit of accounts is carried out by independent auditors, and the audit reports are placed before the Public Accounts Committee of the Provincial Assembly that takes up irregularities on a case by case basis.

Based on the above discussion, a number of recommendations can be summarized which will improve financial management in the province, ensure funding top priority sectors and also contribute to better provisioning of downstream recurrent liabilities. These include:

10.7 Summary of recommendations

10.7.1 Current Budget

- i. Gradual shift to output based budgeting;
- ii. Establish linkage between development & current expenditure;
- iii. Deferred liability estimation & management;

10.7.2 Development Budget

- i. Simplification of release processes especially for development budget;
- ii. Better coordination between Finance and Planning & Development Departments;
- iii. Resolution of cash balance issues;
- iv. Better / accurate resource estimation to ensure availability of funds;
- v. Inclusion of approved schemes in ADP;
- vi. Lesser provision of blocks;
- vii. Avoid thin spreading of development schemes;
- viii. Management of throw forward of development program;
- ix. Use of Assignment Accounts;
- x. More role for administrative department in development
- xi. Setting up of a Priorities Committee

Section 11: Action plan and responsibility matrix

11. Action plan and responsibility matrix

The analysis in this report clearly establishes that Punjab will have to get back on a high growth trajectory if it wants to achieve its development vision. To do this high level of investments have to be made to overcome the current challenges hindering growth and development. This requires not only maximum exploitation of potential resources but also better expenditure management so that maximum value can be achieved from limited resources. This report identifies a number of proposals on both these factors for consideration by the Government of Punjab. Some of these recommendations have been translated into an action plan with identification of the implementation responsibility in Box 11.1.

The action plan contains over 20 actions, largely falling in the domain of Planning and Development and Finance Departments. Over a dozen actionable proposals have been presented in the expenditure planning and management side while over half a dozen actionable proposals are identified for improving resource availability for the Government. We feel that most of these actions are implementable in a one-to-three year timeframe.

Box 11.1: ACTION PLAN AND RESPONSIBILITY MATRIX			(Contd...)
Recommendation/Action Plan	Implementations Responsibility		Time Frame
A. Expenditure Planning			
<ul style="list-style-type: none"> • Accurate estimation of resources for development /size of ADP 			
<ul style="list-style-type: none"> ✓ Estimate a forecasting model based on Historical performance of FBR to project federal Transfers 	FD		2011-12
<ul style="list-style-type: none"> ✓ Estimate of recurrent expenditures (salary and non-salary) arising out of development both for provincial and local governments 	P&D/FD/LG&CD		2011-12
<ul style="list-style-type: none"> ✓ Training of P&D/FD staff to internalize the model of link between development and current Expenditure 	P&D		2011-12
<ul style="list-style-type: none"> • Regular updating and costing of MTDF 	P&D/LDs		2011-12
<ul style="list-style-type: none"> • Setting up of a 'Priority Committee' for prioritization of schemes 	P&D		2011-12
<ul style="list-style-type: none"> • Institutionalization of pre-budget consultation with relevant stakeholders 	FD		2011-12
<ul style="list-style-type: none"> • Capacity building of public representatives to contribute to efficient planning 	P&D		2011-12
<ul style="list-style-type: none"> • Development of Cost Effective strategies for provision of services 	P&D		2011-13
<ul style="list-style-type: none"> ✓ Develop framework for analysis of cost effectiveness of services 	P&D		2011-13
B. Expenditure Management			
<ul style="list-style-type: none"> • Establish a database of recurrent expenditures arising out of development 	P&D/FD		2011-12
<ul style="list-style-type: none"> • Estimation of annual liability arising out of development 	FD		2012-13

schemes being completed		
• Link revenue transfers to local Government (currently linked to revenues only) to expenditures needs	FD/PFC/ LG&CD	2011-12
• Development of MTDF by seven line departments adhering to expenditure ceiling	LD/FD/P&D	2011-12
• Extension of the MTBF to other Government Departments	FD	2012-14
C. Revenue Mobilization		
• Enhancement of the Resource Envelope		
✓ Provincial role in FBR proposals finalization	FD/ICC	2012-13
✓ Strengthening of NFC Secretariat to provide support(through data collection and analysis) to provinces	FD/MOF	2011-12
✓ Strengthen of the Tax Policy capacity at the provincial level and setting of Punjab Revenue Authority	FD/E&T/BOR	2011-12
✓ Setting up of Punjab's Revenue Advisory Council for finalization and Monitoring implementation of revenue proposals	FD/E&T	2011-12
✓ Development of resource mobilization strategy to enhance Provincial Tax and Non-Tax revenue	FD/BOR/E&T/LD	2010-11
✓ Mobilization of donor agencies to contribute to social sector development	P&D	2011-12
✓ PPP cell in P & D to prepare legislation for a Provincial Infrastructure Authority Act	P&D	2011-12
✓ Mobilization of Private sector financing for commercially viable infrastructure	P&D	2012-14

Appendix A: A model for forecasting growth of Punjab's economy

A model for forecasting growth of Punjab's economy

g_n = growth rate of sector in the national economy

g_p = growth rate of sector in Punjab

Agriculture

$$g_p = 0.412 + 0.974.g_N$$

(0.38) (5.06)*

$$\bar{R}^2 = 0.652 \quad D-W = 3.04$$

Industry

$$g_P = 1.603 + 0.787 g_N$$

$$\bar{R}^2 = 0.813 \quad D-W = 2.94$$

Services

$$g_P = -0.242 + 1.208 g_N$$

$$(-0.19) \quad (5.09)^*$$

$$\bar{R}^2 = 0.644 \quad D-W = 2.85$$

*Significant at 5 percent level

Appendix B: Detailed breakup of trend and utilization of provincial expenditure

Detailed breakup of trend and utilization of provincial expenditure

TABLE A – 2.1							
DETAILED BREAKUP OF CURRENT EXPENDITURE BY FUNCTION							
CURRENT		2005-06	2006-07	2007-08	2008-09	2009-10	ACGR
	GENERAL PUBLIC SERVICES	108,944.4	134,076.6	144,503.3	150,136.4	181,765.2	13.7%
011	Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)	29,536.8	36,409.1	37,195.3	40,804.8	56,145.5	17.4%
013	Public Debt Transactions	2.7					
014	Transfers	78,576.1	96,720.9	105,291.8	108,084.1	124,264.7	12.1%
015	General Services	828.7	946.5	2,014.5	1,247.3	1,353.3	13.0%
016	Basic Research		-				
019	General Public Services not Elsewhere Defined	0.2	0.2	1.8	0.2	1.8	81.1%
	PUBLIC ORDER AND SAFETY AFFAIRS	23,145.3	31,261.4	36,312.8	46,425.4	58,768.4	26.2%
031	Law Courts	1,477.7	1,936.5	2,272.1	4,178.6	5,786.4	40.7%
032	Police	19,312.6	26,834.1	31,048.8	38,160.8	47,613.0	25.3%
033	Fire Protection	27.3	22.9	23.2	26.5	33.4	5.2%
034	Prison Administration and Operation	1,466.1	1,746.4	2,022.5	2,898.0	3,425.8	23.6%
036	Administration of Public Order	861.6	721.6	946.2	1,161.4	1,909.8	22.0%
	ECONOMIC AFFAIRS	14,440.9	16,417.1	17,437.8	34,713.5	23,686.5	13.2%
041	General Economic, Commercial & Labour Affairs	149.3	89.9	316.1	130.0	301.9	19.2%
042	Agri. Food, Irrigation, Forestry & Fishing	9,193.6	10,237.4	10,117.5	15,918.3	14,299.2	11.7%
044	Mining and Manufacturing	2,346.2	3,126.1	3,076.0	13,791.0	4,468.9	17.5%
045	Construction and Transport	2,745.3	2,954.6	3,917.9	4,860.7	4,602.6	13.8%
046	Communications		-	-			
047	Other Industries	6.4	9.1	10.4	13.6	13.9	21.2%
	ENVIRONMENT PROTECTION	31.7	29.9	30.9	37.6	42.0	7.3%
052	Waste Water Management	-		30.9			
053	Polution Abatement	31.7	29.9		37.6	42.0	7.3%
055	Administration of Environment Protection (EPA)		-	-			
	HOUSING AND COMMUNITY AMENITIES	780.4	826.5	1,222.2	1,574.6	1,534.6	18.4%
061	Housing Development	121.2	163.2	504.5	621.7	183.8	11.0%
062	Community Development	127.6	158.0	167.1	321.9	496.4	40.4%

063	Water Supply	531.6	505.4	550.6	631.0	854.3	12.6%
	HEALTH	5,912.6	9,011.4	9,623.7	15,299.0	17,945.5	32.0%
071	Medical Products, Appliances & Equipment		-	-			
072	Outpatients Services		-	-			
073	Hospital Services	5,441.2	8,366.9	8,907.4	14,348.0	16,957.4	32.9%
074	Public Health Services	58.8	68.2	70.5	79.6	73.6	5.8%
076	Health Administration	412.7	576.2	645.8	871.4	914.4	22.0%
	RECREATION, CULTURE AND RELIGION	719.7	1,006.0	2,797.4	1,093.9	998.5	8.5%
081	Recreational and Sporting Services	121.1	117.2	215.5	88.6	174.6	9.6%
082	Cultural Services	102.9	180.2	169.7	292.2	309.0	31.6%
083	Broadcasting and Publishing	401.0	628.0	2,312.5	607.8	400.5	0.0%
084	Religious Affairs	81.7	63.6	77.9	80.4	90.0	2.5%
086	Admen. Info. Culture & Recreation	13.0	17.0	21.7	24.9	24.4	17.0%
	EDUCATION AFFAIRS AND SERVICES	2,987.6	11,857.6	11,834.5	25,475.9	20,296.7	61.4%
091	Pre. Primary Education Affairs & Service	404.0	-	-	-		
092	Secondary Education Affairs and Services	-	6.0	15.1	12.4	7.8	
093	Tertiary Education Affairs and Services	2,221.6	7,539.3	7,726.3	15,102.1	13,667.1	57.5%
094	Education Services Not definable by level	66.4	60.8	70.8	94.5	152.8	23.2%
095	Subsidiary Services to Education	88.1	141.3	76.0	106.6	115.7	7.1%
096	Secretariat/Policy/Curriculum		-				
097	Education Affairs, Services Not	207.6	4,110.2	3,946.3	10,160.3	6,353.3	135.2%
	SOCIAL PROTECTION	1,305.7	1,351.2	2,398.2	1,767.4	1,584.5	5.0%
107	Administration	1,123.3	1,087.8	1,051.8	1,384.5	1,249.9	2.7%
108	Others	182.4	263.3	1,346.4	382.9	334.6	16.4%
---	<i>Un-Classified</i>	2.3	-	-	-	-	
	TOTAL CURRENT REVENUE EXPENDITURE	158,270.7	205,837.7	226,160.8	276,523.7	306,621.9	18.0%

TABLE A- 2.2
CURRENT EXPENDITURE SINCE 2005-06 TO 2009-10

Function		2005-06		2006-07		2007-08		2008-09		2009-10	
		B.E. 2005-06	Accounts Upto June, 2006	B.E. 2006-07	Accounts Upto June, 2007	B.E. 2007-08	Accounts Upto June, 2008	B.E. 2008-09	Accounts Upto June, 2009	B.E. 2009-10	Accounts Upto June, 2010
01	General Public Services	108,163.925	108,944.422	123,178.533	134,076.640	149,765.058	144,503.323	140,340.495	150,136.396	159,773.955	181,765.241
03	Public Order and Safety Affairs	20,836.831	23,145.305	24,995.979	31,261.427	34,713.907	36,312.767	37,052.068	46,425.356	54,524.169	58,768.436
04	Economic Affairs	12,978.083	14,440.855	15,513.932	16,417.086	23,182.609	17,437.821	38,510.065	34,713.523	51,909.689	23,686.453
05	Environment Protection	822.229	31.669	26.172	29.899	27.208	30.895	34.060	37.632	45.825	42.015
06	Housing and Community Amenities	2,207.703	780.365	5,768.666	826.520	2,484.413	1,222.198	2,625.019	1,574.563	2,271.913	1,534.575
07	Health	5,971.973	5,912.620	5,887.201	9,011.375	7,194.878	9,623.718	11,024.703	15,298.980	21,771.773	17,945.462
08	Recreation, Culture and Religion	456.499	719.689	503.977	1,005.985	650.363	2,797.420	663.823	1,093.891	739.947	998.498
09	Education Affairs and Services	4,976.474	2,987.641	14,101.695	11,857.597	23,745.718	11,834.499	25,272.437	25,475.905	22,384.759	20,296.688
10	Social Protection	1,114.315	1,308.086	1,402.010	1,351.156	1,723.133	2,398.204	1,425.986	1,767.439	1,451.055	1,584.512
	Total Current Revenue Expenditure	157,528.032	158,270.652	191,378.165	205,837.685	243,487.287	226,160.845	256,948.656	276,523.685	314,873.085	306,621.880

TABLE A – 2.3 DEVELOPMENT EXPENDITURE SINCE 2005-06 TO 2009-10 (Contd...)						
DEVELOPMENT		2005-06	2006-07	2007-08	2008-09	2009-10
01	GENERAL PUBLIC SERVICE	16,235.6	32,321.8	34,287.1	38,554.4	30,737.0
011	Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)	8,915.8	60.3	26.9	19.9	6.4
014	Transfers	7,072.9	31,047.4	32,567.5	38,041.4	30,410.5
015	General Services	246.9	1,214.1	1,692.7	493.1	320.1
019	General Public Services not Elsewhere Defined					
03	PUBLIC ORDER & SAFETY AFFAIRS	6.4	80.6	71.9	1,345.1	2,174.9
031	Law Courts	1.2	-	-	6.0	
032	Police	-	-	65.0	4.1	5.8
034	Prison Administration and Operation		73.6	-	-	-
036	Administration of Public Order	5.2	7.0	6.9	1,334.9	2,169.1
04	ECONOMIC AFFAIRS	33,979.8	55,948.1	49,847.0	60,993.3	64,107.7
041	General Economic, Commercial & Labor Affairs	69.2	45.6	28.8	77.2	79.5
042	Agri. Food, Irrigation, Forestry & Fishing	6,061.3	8,540.3	2,812.6	8,268.0	6,356.1
043	Fuel and Energy	5.0	1.8	1.4	5.0	5.8
044	Mining and Manufacturing		395.0	244.3	588.1	1,632.4
045	Construction & Transport	27,649.3	46,310.4	46,131.9	52,051.6	56,006.4
047	Other Industries	195.0	655.1	628.0	3.3	27.5
05	ENVIRONMENT PROTECTION	1,063.3	135.5	88.0	229.5	76.5
051	Waste Management	-	-	-		
052	Waste Water Management	1,046.4	74.7	-		
055	Administration of Environment Protection	17.0	60.8	88.0	229.5	76.5
06	HOUSING & COMMUNITY AMENITIES	9,350.7	14,588.5	15,165.6	19,334.8	21,933.1
061	Low Cost Housing	232.2	157.1	19.9	-	
062	Community Development	4,848.4	10,359.8	9,884.2	11,786.8	13,853.6
063	Water Supply	4,270.1	4,071.6	5,261.4	7,548.0	8,079.5
07	HEALTH	2,251.6	3,957.4	4,238.8	2,989.7	5,484.3
073	Hospital Services	1,156.2	2,572.7	2,610.2	2,977.8	5,380.8

074	Public Health Services	1,073.4	1,384.0	1,628.6	11.9	103.5
076	Administration Health	22.1	0.7	-	-	
08	RECREATION, CULTURE AND RELIGION	541.2	972.2	148.9	257.5	268.0
081	Recreational and Sporting Services	-	-	14.1	14.0	-
082	Cultural Services	49.3	679.1	23.4	84.6	141.4
083	Broadcasting and Publishing	1.7	-	-		
084	Religious Affairs		20.0	6.6	7.8	37.9
086	Administration of Information Recreation Culture	490.2	273.1	104.9	151.1	88.7
09	EDUCATION AFFAIRS & SERVICES	854.6	5,622.9	2,095.0	6,930.2	2,860.6
091	Pre-Primary & Primary Education Affairs & Services	60.3	130.9	421.7	363.7	369.9
092	Secondary Education Affairs & Services	215.0	152.5	5.5	5,010.2	883.5
093	Tertiary Education Affairs & Services	414.0	5,057.4	1,552.5	1,519.5	1,532.6
094	Education Services not Definable by Level	12.9	27.3	86.1	36.8	74.5
095	Subsidiary Services to Education		219.2	-	-	
097	Education Affairs & Services not elsewhere classified	152.4	35.5	29.4	-	-
10	SOCIAL PROTECTION	2,040.7	1,535.5	2,337.5	1,899.2	1,778.4
107	Administration (Relief Measures)	1,839.3	1,409.4	2,040.2	1,636.2	1,586.8
108	Others	201.4	126.2	297.2	263.0	191.7
	SUB TOTAL ADP	66,324.0	115,162.6	108,279.8	132,533.6	129,420.5

TABLE A – 2.4
DEVELOPMENT EXPENDITURE SINCE 2005-06 TO 2009-10

Function		2005-06		2006-07		2007-08		2008-09		2009-10		
		B.E. 2005-06	Accounts Upto June, 2006	B.E. 2006-07	Accounts Upto June, 2007	B.E. 2007-08	Accounts Upto June, 2008	B.E. 2008-09	Accounts Upto June, 2009	B.E. 2009-10	Accounts Upto June, 2010	
01	General Public Service	6,010.097	16,235.628	30,230.350	32,321.798	21,951.171	34,287.060	21,450.241	38,554.364	21,572.193	30,736.978	17.3%
03	Public Order & Safety Affairs	-	6.383	50.000	80.637	39.000	71.922	555.950	1,345.056	1,891.332	2,174.902	329.6%
04	Economic Affairs	27,030.646	33,979.791	60,799.011	55,948.102	84,781.788	49,846.974	87,399.734	60,993.303	94,901.046	64,107.705	17.2%
05	Environment Protection	61.697	1,063.322	173.500	135.502	1,099.700	88.041	942.000	229.512	2,500.000	76.540	-48.2%
06	Housing & Community Amenities	7,561.969	9,350.734	9,250.000	14,588.547	19,092.741	15,165.598	21,096.931	19,334.794	23,200.000	21,933.078	23.8%
07	Health	2,770.146	2,251.634	4,161.444	3,957.375	3,782.125	4,238.756	5,351.208	2,989.686	6,916.382	5,484.268	24.9%
08	Recreation, Culture and Religion	788.481	541.246	425.272	972.219	738.267	148.943	336.514	257.525	1,574.770	267.980	-16.1%
09	Education Affairs & Services	7,586.238	854.625	9,341.959	5,622.854	17,058.401	2,095.025	21,687.400	6,930.182	19,346.139	2,860.575	35.3%
10	Social Protection	4,249.490	2,040.685	2,692.984	1,535.542	1,456.807	2,337.495	1,180.022	1,899.153	3,098.138	1,778.439	-3.4%
	Sub Total ADP	56,058.764	66,324.048	117,124.520	115,162.576	150,000.000	108,279.814	160,000.000	132,533.575	175,000.000	129,420.465	
Utilization of Development Funds												
		2005-06		2006-07		2007-08		2008-09		2009-10		
	Budget Estimate	56,058.8		117,124.5		150,000.0		160,000.0		175,000.0		
	Actual Expenditure	66,324.0		115,162.6		108,279.8		132,533.6		129,420.5		
	% utilization	118.3%		98.3%		72.2%		82.8%		74.0%		

TABLE A -2.5
DEVELOPMENT EXPENDITURE SINCE 2005-06 TO 2009-10

(Contd..)

Function		2005-06		2006-07		2007-08		2008-09		2009-10	
		B.E. 2005-06	Accounts Upto June, 2006	B.E. 2006-07	Accounts Upto June, 2007	B.E. 2007-08	Accounts Upto June, 2008	B.E. 2008-09	Accounts Upto June, 2009	B.E. 2009-10	Accounts Upto June, 2010
01	GENERAL SERVICE PUBLIC	6,010.097	16,235.628	30,230.350	32,321.798	21,951.171	34,287.060	21,450.241	38,554.364	21,572.193	30,736.978
011	Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)	2.000	8,915.801	3.208	60.264	1,136.259	26.897	1.000	19.886	10.000	6.437
014	Transfers	5,440.325	7,072.901	28,950.221	31,047.386	16,326.000	32,567.482	15,767.605	38,041.385	16,961.188	30,410.463
015	General Services	567.772	246.926	1,276.921	1,214.148	4,488.912	1,692.681	5,681.636	493.093	4,601.005	320.078
019	General Public Services not Elsewhere Defined										
03	PUBLIC ORDER & SAFETY AFFAIRS	-	6.383	50.000	80.637	39.000	71.922	555.950	1,345.056	1,891.332	2,174.902
031	Law Courts	-	1.176	-	-	-	-	2.000	6.027		
032	Police	-	-	50.000	-	10.000	65.048	4.000	4.106	-	5.793
034	Prison Administration and Operation			-	73.601	-	-	400.000	-	60.000	-
036	Administration of Public Order	-	5.207	-	7.036	29.000	6.874	149.950	1,334.923	1,831.332	2,169.109
04	ECONOMIC AFFAIRS	27,030.646	33,979.791	60,799.011	55,948.102	84,781.788	49,846.974	87,399.734	60,993.303	94,901.046	64,107.705
041	General Economic, Commercial & Labor Affairs	47.000	69.246	413.869	45.563	612.899	28.784	453.560	77.241	235.000	79.512
042	Agri. Food, Irrigation, Forestry & Fishing	5,257.350	6,061.287	9,243.912	8,540.260	13,041.063	2,812.552	14,478.881	8,268.023	12,679.849	6,356.090
043	Fuel and Energy	-	5.000	22.293	1.815	817.298	1.434	765.000	5.013	90.000	5.775
044	Mining and Manufacturing			-	394.963	1,131.802	244.348	2,482.595	588.133	1,012.733	1,632.398

045	Construction & Transport	21,674.06 ₁	27,649.281	51,095.402	46,310.365	69,158.412	46,131.904	69,148.745	52,051.591	80,742.964	56,006.382
047	Other Industries	52.235	194.977	23.535	655.136	20.314	627.952	70.953	3.302	140.500	27.548
05	ENVIRONMENT PROTECTION	61.697	1,063.322	173.500	135.502	1,099.700	88.041	942.000	229.512	2,500.000	76.540
051	Waste Management	-	-	-	-	-	-				
052	Waste Water Management	-	1,046.370	-	74.662	-	-				
055	Administration of Environment Protection	61.697	16.952	173.500	60.840	1,099.700	88.041	942.000	229.512	2,500.000	76.540
06	HOUSING & COMMUNITY AMENITIES	7,561.969	9,350.734	9,250.000	14,588.547	19,092.741	15,165.598	21,096.931	19,334.794	23,200.000	21,933.078
061	Low Cost Housing	204.969	232.237	400.000	157.108	3,000.000	19.930	-	-		
062	Community Development	2,857.000	4,848.412	3,650.000	10,359.835	9,592.741	9,884.235	13,096.931	11,786.764	14,700.000	13,853.600
063	Water Supply	4,500.000	4,270.085	5,200.000	4,071.604	6,500.000	5,261.433	8,000.000	7,548.030	8,500.000	8,079.478
07	HEALTH	2,770.146	2,251.634	4,161.444	3,957.375	3,782.125	4,238.756	5,351.208	2,989.686	6,916.382	5,484.268
073	Hospital Services	1,770.146	1,156.159	2,417.535	2,572.668	3,782.125	2,610.158	5,351.208	2,977.832	6,916.382	5,380.810
074	Public Health Services	1,000.000	1,073.368	1,729.730	1,383.958		1,628.598	-	11.854	-	103.458
076	Administration Health	-	22.107	14.179	0.749	-	-	-	-		
08	RECREATION, CULTURE AND RELIGION	788.481	541.246	425.272	972.219	738.267	148.943	336.514	257.525	1,574.770	267.980
081	Recreational and Sporting Services	-	-	-	-	40.000	14.057	-	14.049	67.500	-
082	Cultural Services	82.681	49.300	113.672	679.112	242.827	23.356	198.815	84.553	222.970	141.423
083	Broadcasting and Publishing	5.800	1.746	-	-	-	-				
084	Religious Affairs	-		20.000	20.000	15.440	6.649	15.700	7.783	20.000	37.902
086	Administration of Information Recreation Culture	700.000	490.200	291.600	273.107	440.000	104.881	121.999	151.140	1,264.300	88.655
09	EDUCATION AFFAIRS & SERVICES	7,586.238	854.625	9,341.959	5,622.854	17,058.401	2,095.025	21,687.400	6,930.182	19,346.139	2,860.575
091	Pre-Primary & Primary Education Affairs & Services	-	60.327	672.997	130.891	-	421.661	-	363.680	725.000	369.904

092	Secondary Education Affairs & Services	7,586.238	215.025	238.231	152.485	-	5.473	-	5,010.170	-	883.487
093	Tertiary Education Affairs & Services	-	414.005	491.953	5,057.406	7,501.603	1,552.470	4,835.325	1,519.532	1,950.000	1,532.635
094	Education Services not Definable by Level	-	12.893	377.902	27.346	302.450	86.063	406.500	36.800	73.000	74.549
095	Subsidiary Services to Education			-	219.200	-	-	-	-		
097	Education Affairs & Services not elsewhere classified	-	152.375	7,560.876	35.526	9,254.348	29.358	16,445.575	-	16,598.139	-
10	SOCIAL PROTECTION	4,249.490	2,040.685	2,692.984	1,535.542	1,456.807	2,337.495	1,180.022	1,899.153	3,098.138	1,778.439
107	Administration (Relief Measures)	4,127.742	1,839.326	2,564.984	1,409.351	1316.807	2,040.246	866.941	1,636.159	2,462.063	1,586.751
108	Others	121.748	201.359	128.000	126.191	140.000	297.249	313.081	262.994	636.075	191.688
	SUB TOTAL ADP	56,058.764	66,324.048	117,124.520	115,162.576	150,000.000	108,279.814	160,000.000	132,533.575	175,000.000	129,420.465
Development		2005-06	2006-07	2007-08	2008-09	2009-10					
01	GENERAL PUBLIC SERVICE	270.1%	106.9%	156.2%	179.7%	142.5%					
011	Executive & Legislative Organs, Financial and Fiscal Affairs (Including debt servicing)	445790.1%	1878.6%	2.4%	1988.6%	64.4%					
014	Transfers	130.0%	107.2%	199.5%	241.3%	179.3%					
015	General Services	43.5%	95.1%	37.7%	8.7%	7.0%					
019	General Public Services not Elsewhere Defined										
03	PUBLIC ORDER & SAFETY AFFAIRS		161.3%	184.4%	241.9%	115.0%					
031	Law Courts				301.4%						
032	Police		0.0%	650.5%	102.7%						
034	Prison Administration and Operation				0.0%	0.0%					
036	Administration of Public Order			23.7%	890.2%	118.4%					

04	ECONOMIC AFFAIRS	125.7%	92.0%	58.8%	69.8%	67.6%					
041	General Economic, Commercial & Labor Affairs	147.3%	11.0%	4.7%	17.0%	33.8%					
042	Agri. Food, Irrigation, Forestry & Fishing	115.3%	92.4%	21.6%	57.1%	50.1%					
043	Fuel and Energy		8.1%	0.2%	0.7%	6.4%					
044	Mining and Manufacturing			21.6%	23.7%	161.2%					
045	Construction & Transport	127.6%	90.6%	66.7%	75.3%	69.4%					
047	Other Industries	373.3%	2783.7%	3091.2%	4.7%	19.6%					
05	ENVIRONMENT PROTECTION	1723.5%	78.1%	8.0%	24.4%	3.1%					
051	Waste Management										
052	Waste Water Management										
055	Administration of Environment Protection	27.5%	35.1%	8.0%	24.4%	3.1%					
06	HOUSING & COMMUNITY AMENITIES	123.7%	157.7%	79.4%	91.6%	94.5%					
061	Low Cost Housing	113.3%	39.3%	0.7%							
062	Community Development	169.7%	283.8%	103.0%	90.0%	94.2%					
063	Water Supply	94.9%	78.3%	80.9%	94.4%	95.1%					
07	HEALTH	81.3%	95.1%	112.1%	55.9%	79.3%					
073	Hospital Services	65.3%	106.4%	69.0%	55.6%	77.8%					
074	Public Health Services	107.3%	80.0%								
076	Administration Health		5.3%								
08	RECREATION, CULTURE AND RELIGION	68.6%	228.6%	20.2%	76.5%	17.0%					
081	Recreational and Sporting Services			35.1%		0.0%					
082	Cultural Services	59.6%	597.4%	9.6%	42.5%	63.4%					
083	Broadcasting and Publishing	30.1%									
084	Religious Affairs		100.0%	43.1%	49.6%	189.5%					

086	Administration of Information Recreation Culture	70.0%	93.7%	23.8%	123.9%	7.0%					
09	EDUCATION AFFAIRS & SERVICES	11.3%	60.2%	12.3%	32.0%	14.8%					
091	Pre-Primary & Primary Education Affairs & Services		19.4%			51.0%					
092	Secondary Education Affairs & Services	2.8%	64.0%								
093	Tertiary Education Affairs & Services		1028.0%	20.7%	31.4%	78.6%					
094	Education Services not Definable by Level		7.2%	28.5%	9.1%	102.1%					
095	Subsidiary Services to Education										
097	Education Affairs & Services not elsewhere classified		0.5%	0.3%	0.0%	0.0%					
10	SOCIAL PROTECTION	48.0%	57.0%	160.5%	160.9%	57.4%					
107	Administration (Relief Measures)	44.6%	54.9%	154.9%	188.7%	64.4%					
108	Others	165.4%	98.6%	212.3%	84.0%	30.1%					
	SUB TOTAL ADP	118.3%	98.3%	72.2%	82.8%	74.0%					

Appendix C: Equations of the model of provincial finances

**EQUATIONS OF THE MODEL OF PROVINCIAL FINANCES
FOR ASSESSING THE FINANCIAL IMPACT OF THE DEVELOPMENT PORTFOLIO
(Historical Trends)**

1. $RE01 = 43915.6 + 0.190 * RR + 2500 * dadj$
2. $RE02 = 0$
3. $RE03 = - 5448.3 + 0.164 * RR$
4. $RE04 = - 2.7 + 0.069 * DE04(-1) + 0.843 * RE04(-1)$
5. $RE05 = 19.8$
6. $RE06 = 469.0 + 0.034 * DE06(-1)$
7. $RE07 = 2316.3 + 0.760 * RE07(-1) + 0.678 * DE07(-1)$
8. $RE08 = 316.1$
9. $RE09 = 264.3 + 0.948 * RE09(-1) + 0.598 * DE09(-1)$
10. $RE10 = 528.2$
11. $RE = RE01 + RE02 + RE03 + RE04 + RE05 + RE06 + RE07 + RE08 + RE09 + RE10$
12. $DEC = RR.RRP + RCRB - RE.REP$
13. $SE01 = 3.71 + 0.53 * T$
14. $SE02 = 0$
15. $SE03 = 0.004 + 1.115 * SE03(-1)$
16. $SE04 = 48.096 + 0.50 * T$
17. $SE05 = - 0.028 + 0.679 * SE05(-1)$
18. $SE06 = 100 - SE01 - SE02 - SE03 - SE04 - SE05 - SE07 - SE08 - SE09 - SE10$
19. $SE07 = 2.489 + 0.315 * T$

$$20. SE08 = 0.722 + 0.263 * SE08(-1)$$

$$21. SE09 = 13.639 - 0.230 * T$$

$$22. SE10 = 0.219 + 0.367 * SE10(-1)$$

$$23. DE01 = (SE01 / 100) * DE$$

$$24. DE02 = (SE02 / 100) * DE$$

$$25. DE03 = (SE03 / 100) * DE$$

$$26. DE04 = (SE04 / 100) * DE$$

$$27. DE05 = (SE05 / 100) * DE$$

$$28. DE06 = (SE06 / 100) * DE$$

$$29. DE07 = (SE07 / 100) * DE$$

$$30. DE08 = (SE08 / 100) * DE$$

$$31. DE09 = (SE09 / 100) * DE$$

$$32. DE10 = (SE10 / 100) * DE$$

$$33. RRC = rr * rrp$$

$$34. RE01C = RE01 * REP$$

$$35. RE02C = RE02 * REP$$

$$36. RE03C = RE03 * REP$$

$$37. RE04C = RE04 * REP$$

$$38. RE05C = RE05 * REP$$

$$39. RE06C = RE06 * REP$$

$$40. RE07C = RE07 * REP$$

$$41. RE08C = RE08 * REP$$

$$42. RE09C = RE09 * REP$$

$$43. RE10C = RE10 * REP$$

$$44. REC = RE * REP$$

$$45. DE01C = DE01 * DEP$$

$$46. DE02C = DE02 * DEP$$

$$47. DE03C = DE03 * DEP$$

$$48. DE04C = DE04 * DEP$$

$$49. DE05C = DE05 * DEP$$

$$50. DE06C = DE06 * DEP$$

$$51. DE07C = DE07 * DEP$$

$$52. DE08C = DE08 * DEP$$

$$53. DE09C = DE09 * DEP$$

$$54. DE10C = DE10 * DEP$$

$$55. DE = DEC / DEP$$

EQUATIONS OF THE MODEL (Shares from MTDF)

1. $RE01 = 43915.6 + 0.190 * RR + 2500 * dadj$
2. $RE02 = 0$
3. $RE03 = -5448.3 + 0.164 * RR$
4. $RE04 = -2.7 + 0.069 * DE04(-1) + 0.843 * RE04(-1)$
5. $RE05 = 19.8$
6. $RE06 = 469.0 + 0.034 * DE06(-1)$
7. $RE07 = 2316.3 + 0.760 * RE07(-1) + 0.678 * DE07(-1)$
8. $RE08 = 316.1$
9. $RE09 = 264.3 + 0.948 * RE09(-1) + 0.598 * DE09(-1)$
10. $RE10 = 528.2$
11. $RE = RE01 + RE02 + RE03 + RE04 + RE05 + RE06 + RE07 + RE08 + RE09 + RE10$
12. $DEC = RR.RRP + RCRB - RE.REP$
13. $SE01 = 9.4 - 0.4 * T1$
14. $SE02 = 0$
15. $SE03 = 1.1$
16. $SE04 = 50.9 - 0.4 * T1$
17. $SE05 = 0.2$
18. $SE06 = 16.1 + 0.3 * T1$
19. $SE07 = 7.9 + 0.3 * T1$
20. $SE08 = 0.4$

$$21. SE09 = 13.5 + 0.2 * T1$$

$$22. SE10 = 0.5$$

$$23. DE01 = (SE01 / 100) * DE$$

$$24. DE02 = (SE02 / 100) * DE$$

$$25. DE03 = (SE03 / 100) * DE$$

$$26. DE04 = (SE04 / 100) * DE$$

$$27. DE05 = (SE05 / 100) * DE$$

$$28. DE06 = (SE06 / 100) * DE$$

$$29. DE07 = (SE07 / 100) * DE$$

$$30. DE08 = (SE08 / 100) * DE$$

$$31. DE09 = (SE09 / 100) * DE$$

$$32. DE10 = (SE10 / 100) * DE$$

$$33. RRC = rr * rrp$$

$$34. RE01C = RE01 * REP$$

$$35. RE02C = RE02 * REP$$

$$36. RE03C = RE03 * REP$$

$$37. RE04C = RE04 * REP$$

$$38. RE05C = RE05 * REP$$

$$39. RE06C = RE06 * REP$$

$$40. RE07C = RE07 * REP$$

$$41. RE08C = RE08 * REP$$

$$42. RE09C = RE09 * REP$$

$$43. RE10C = RE10 * REP$$

$$44. REC = RE * REP$$

$$45. DE01C = DE01 * DEP$$

$$46. DE02C = DE02 * DEP$$

$$47. DE03C = DE03 * DEP$$

$$48. DE04C = DE04 * DEP$$

$$49. DE05C = DE05 * DEP$$

$$50. DE06C = DE06 * DEP$$

$$51. DE07C = DE07 * DEP$$

$$52. DE08C = DE08 * DEP$$

$$53. DE09C = DE09 * DEP$$

$$54. DE10C = DE10 * DEP$$

$$55. DE = DEC / DEP$$

Appendix D: Estimated equations of the model

Estimated equations of the model

GENERAL PUBLIC SERVICE				
Dependent Variable: RE01				
Method: Least Squares				
Date: 12/07/10 Time: 15:55				
Sample: 1998 2011				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	13613.16	5456.329	2.494930	0.0298
RR	0.189816	0.053425	3.552976	0.0045
D1	36302.36	4031.641	9.004364	0.0000
R-squared	0.972855	Mean dependent var		62373.00
Adjusted R-squared	0.967919	S.D. dependent var		24441.98
S.E. of regression	4377.821	Akaike info criterion		19.79390
Sum squared resid	2.11E+08	Schwarz criterion		19.93084
Log likelihood	-135.5573	Hannan-Quinn criter.		19.78122
F-statistic	197.1144	Durbin-Watson stat		2.061961
Prob(F-statistic)	0.000000			

PUBLIC ORDER AND SAFETY AFFAIRS				
Dependent Variable: RE03				
Method: Least Squares				
Date: 12/06/10 Time: 18:09				
Sample: 1998 2011				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6254.505	703.9000	-8.885502	0.0000
RR	0.163513	0.005242	31.19302	0.0000
D1	3792.119	461.9402	8.209113	0.0000
R-squared	0.991588	Mean dependent var		16457.87
Adjusted R-squared	0.990058	S.D. dependent var		6809.511
S.E. of regression	678.9692	Akaike info criterion		16.06644
Sum squared resid	5070991.	Schwarz criterion		16.20338
Log likelihood	-109.4651	Hannan-Quinn criter.		16.05376
F-statistic	648.3002	Durbin-Watson stat		2.275806
Prob(F-statistic)	0.000000			

ECONOMIC AFFAIRS

Dependent Variable: RE04

Method: Least Squares

Date: 12/06/10 Time: 18:23

Sample (adjusted): 1999 2011

Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	812.5343	1328.704	0.611524	0.5602
DE04(-1)	0.069427	0.026828	2.587887	0.0361
RE04(-1)	0.842727	0.094135	8.952297	0.0000
D08	-2638.274	1179.498	-2.236777	0.0604
D09	6378.516	1114.829	5.721518	0.0007
D1	2139.422	949.1053	2.254146	0.0588
R-squared	0.957826	Mean dependent var		14198.37
Adjusted R-squared	0.927702	S.D. dependent var		3218.631
S.E. of regression	865.4325	Akaike info criterion		16.66837
Sum squared resid	5242814.	Schwarz criterion		16.92912
Log likelihood	-102.3444	Hannan-Quinn criter.		16.61478
F-statistic	31.79611	Durbin-Watson stat		2.068311
Prob(F-statistic)	0.000114			

HOUSING AND COMMUNITY AMENITIES

Dependent Variable: RE06

Method: Least Squares

Date: 12/07/10 Time: 16:18

Sample (adjusted): 1999 2011

Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	469.0895	134.3237	3.492233	0.0050
DE06(-1)	0.034098	0.018396	1.853530	0.0908
R-squared	0.237994	Mean dependent var		663.1507
Adjusted R-squared	0.168720	S.D. dependent var		332.7741
S.E. of regression	303.4052	Akaike info criterion		14.40865
Sum squared resid	1012602.	Schwarz criterion		14.49557
Log likelihood	-91.65625	Hannan-Quinn criter.		14.39079
F-statistic	3.435574	Durbin-Watson stat		1.456132
Prob(F-statistic)	0.090797			

HEALTH

Dependent Variable: RE07

Method: Least Squares

Date: 12/07/10 Time: 14:03

Sample (adjusted): 1999 2011

Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1338.866	1528.733	0.875801	0.4067
RE07(-1)	0.759790	0.262140	2.898417	0.0199
DE07(-1)	0.678453	0.406656	1.668371	0.1338
D03	-2466.961	937.5170	-2.631378	0.0301
D11	-1627.262	1609.631	-1.010953	0.3416
R-squared	0.783573	Mean dependent var		6356.903
Adjusted R-squared	0.675360	S.D. dependent var		1874.117
S.E. of regression	1067.819	Akaike info criterion		17.06835
Sum squared resid	9121904.	Schwarz criterion		17.28564
Log likelihood	-105.9443	Hannan-Quinn criter.		17.02369
F-statistic	7.241002	Durbin-Watson stat		2.404918
Prob(F-statistic)	0.009071			

EDUCATION AFFAIRS AND SERVICES

Dependent Variable: RE09

Method: Least Squares

Date: 12/06/10 Time: 19:16

Sample (adjusted): 1999 2011

Included observations: 13 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	264.3382	1917.260	0.137873	0.8942
RE09(-1)	0.948248	0.069736	13.59771	0.0000
DE09(-1)	0.597671	0.530342	1.126954	0.2969
D1	-23766.30	2339.620	-10.15819	0.0000
D07	6411.432	2490.035	2.574836	0.0367
D2	-7786.183	2306.795	-3.375325	0.0118
R-squared	0.975122	Mean dependent var		13551.01
Adjusted R-squared	0.957351	S.D. dependent var		10080.89
S.E. of regression	2081.859	Akaike info criterion		18.42395
Sum squared resid	30338953	Schwarz criterion		18.68469
Log likelihood	-113.7557	Hannan-Quinn criter.		18.37035
F-statistic	54.87386	Durbin-Watson stat		2.457387
Prob(F-statistic)	0.000018			

Appendix E: Medium Term Development Framework

MEDIUM TERM DEVELOPMENT FRAMEWORK								
(Contd..)								
Page No	Sr No	Sector	Allocation 2010-11	% of Core 2010-11	Projections 2011-12	% of Core 2011-12	Projections 2012-13	% of Core 2012-13
8-504	A	Social Sectors	68,253	46.1	76,121	46.7	85,140	47.3
8-124	1	Education	23,300	15.8	26,243	16.1	29,880	16.6
8-28		School Education	14,050	9.5	15,648	9.6	17,460	9.7
29-78		Higher Education	6,350	4.3	7,172	4.4	8,100	4.5
79-85		Special Education	500	0.3	652	0.4	900	0.5
86-94		Literacy	800	0.5	978	0.6	1,260	0.7
95-124		Sports	1,600	1.1	1,793	1.1	2,160	1.2
125-170	2	Health	14,500	9.8	16,137	9.9	18,000	10.0
171-435	3	Water Supply & Sanitation	9,500	6.4	10,595	6.5	11,880	6.6
436-447	4	Social Protection	900	0.6	1,141	0.7	1,440	0.8
448-496	5	Regional Planning	14,203	9.6	15,648	9.6	17,280	9.6
497-504	6	Local Government & Community Development	5,850	4.0	6,357	3.9	6,660	3.7
		LG&CD	1,850	1.3	2,119	1.3	2,340	1.3
		Punjab Development Programme	3,000	2.0	3,097	1.9	3,060	1.7
		Development High Rise Apartments at sites of Katchi Abadis	1,000	0.7	1,141	0.7	1,260	0.7
7-352	B	Infrastructure Development	59,260	40.1	63,081	38.7	67,680	37.6
8-120	7	Roads	32,885	22.2	34,230	21.0	36,000	20.0
121-164	8	Irrigation	11,005	7.4	11,736	7.2	12,960	7.2
165-290	9	Public Buildings	6,210	4.2	6,846	4.2	7,200	4.0
291-352	10	Urban Development	9,160	6.2	10,269	6.3	11,520	6.4
353-439	C	Production Sectors	7,000	4.7	8,313	5.1	9,540	5.3
354-372	11	Agriculture	3,200	2.2	3,586	2.2	4,140	2.3
	12	Forestry, Wildlife & Fisheries	1,080	0.7	1,304	0.8	1,440	0.8
373-382		Forestry	450	0.3	489	0.3	540	0.3
383-391		Wildlife	395	0.3	489	0.3	540	0.3
392-399		Fisheries	235	0.2	326	0.2	360	0.2
400-404	13	Food	200	0.1	326	0.2	360	0.2

405-417	14	Livestock	2,000	1.4	2,445	1.5	2,880	1.6
418-428	15	Industries	220	0.1	326	0.2	360	0.2
429-439	16	Mines & Minerals	300	0.2	326	0.2	360	0.2
440-491	D	Services Sectors	7,050	4.8	8,150	5.0	9,180	5.1
441-450	17	Information Technology	1,960	1.3	2,119	1.3	2,520	1.4
451-458	18	Commerce & Investment	140	0.1	163	0.1	180	0.1
459-467	19	Labour & HR Development	85	0.1	163	0.1	180	0.1
468-474	20	Transport	1,190	0.8	1,467	0.9	1,800	1.0
475-483	21	Emergency Service	2,000	1.4	2,282	1.4	2,340	1.3
484-491	22	Tourism	1,675	1.1	1,956	1.2	2,160	1.2
492-	E	Others	6,366	4.3	7,335	4.5	8,460	4.7
493-503	23	Environment	335	0.2	489	0.3	540	0.3
504-513	24	Information, Culture & Youth Affairs	295	0.2	326	0.2	360	0.2
514-521	25	Auqaf & Religious Affairs	276	0.2	326	0.2	360	0.2
522-527	26	Human Rights & Minority Affairs	215	0.1	326	0.2	360	0.2
528-545	27	Access to Justice Programme	50	0.03	-	-	-	-
546-555	28	Planning & Development	5,195	3.5	5,868	3.6	6,840	3.8
		Total Core Programme	147,929	100	163,000	100	180,000	100
	F	Special Programme / Packages	34,071		32,000		32,000	
		(i) District / TMA Development Programme	12,000		12,000		12,000	
556-566		(ii) Special Infrastructure	19,121		20,000		20,000	
567-570		(iii) Special Packages	1,450		-		-	
569-570		(iv) New Initiatives / Medical Colleges	1,500		-		-	
		Net Development Programme	182,000		195,000		212,000	

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